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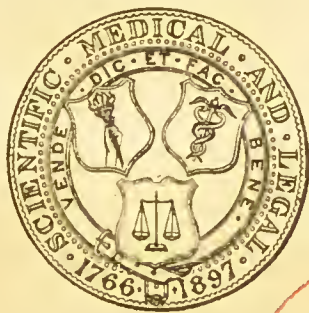


EX CATHEDRÂ ESSAYS ON INSANITY

BY

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438

London

ADLARD AND SON

BARTHOLOMEW CLOSE

1904

*There was a Door to which I found no key :
There was a Veil past which I could not see.*

*Myself when young did eagerly frequent
Doctor and Saint, and heard great Argument
About it and about: but evermore
Came out by the same Door as in I went.*

OMAR KHAYYAM.

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PREFACE

IN publishing this small volume of Essays my object is to bridge over the gap which separates me from the long series of St. Bartholomew's men to whom for many years I have lectured on psychological medicine.

The kind expressions of many former pupils lead me to think that the teaching, some of which is embodied in these *obiter dicta*, has not been in vain in directing an interested attention towards subjects, many of them speculative, but always entrancing, and not of necessity leading to "nothingness" in the pursuit of an objective shrouded in much mystery.

I venture to hope that these extracts may be of some practical value towards the attainment of that estimate of motives which should make us all chary

of criticism in dealing with the actions of those with whom we come in contact.

There are plenty of text-books on insanity. I have thought it better for the immediate purpose to string together a few reminiscences of the past in the hope that those who eventually flourish in the full blossom of the tree will not forget the seed from which it sprung.

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CONTENTS

CHAPTER I

	PAGE
THE NATURE OF INSANITY	1

CHAPTER II

DIVISION OF THE SUBJECT	19
-----------------------------------	----

CHAPTER III

CONSCIOUSNESS	38
-------------------------	----

CHAPTER IV

SYMPTOMS OF INSANITY	54
--------------------------------	----

CHAPTER V

INCOHERENCE	80
-----------------------	----

CHAPTER VI

EVOLUTION AND DISSOLUTION	94
-------------------------------------	----

CHAPTER VII

	PAGE
PSYCHOLOGY AND NERVOUS DISEASES - - -	111

CHAPTER VIII

ON HYSTERIA - - - - -	144
-----------------------	-----

CHAPTER IX

SURGERY AND INSANITY - - - - -	170
--------------------------------	-----

CHAPTER X

THE SURGICAL TREATMENT OF DELUSIONAL INSANITY BASED UPON ITS PHYSIOLOGICAL STUDY - -	194
---	-----

CHAPTER XI

IMPULSIVE INSANITY - - - - -	207
------------------------------	-----

CHAPTER XII

ON THE TREATMENT OF INSANITY - - -	226
------------------------------------	-----

ESSAYS ON INSANITY

CHAPTER I

THE NATURE OF INSANITY

THE insane person is nowadays best described, and is certainly usually understood, as one who is out of harmony with his environment ; but this must be taken with a limitation. The discontented man and the professional criminal are for the time being not in harmony with their environment, but they are not, therefore, of necessity, insane. They know and recognize that their condition is temporary and accidental, but the insane person does not see that he is in a minority of one, and that instead of trying to bring social relations into a line with himself, it is his place to put himself in accord with them. Insanity, being some condition that is opposed to sanity, must depend for its interpretation upon what is meant by sanity or saneness.

Man is born to think and to act. These two processes are the essence of his being, and he must think and act in a certain manner, according to the rules of the social level in which he happens to live. The individual born among the lower orders may think and do what is impossible for the patrician, and his life is normal; but if the latter develops a display of thought and action befitting the lower level, he is rightly called insane, or degenerate.

So, then, insanity means want of conformity with an artificial scale, either from inability due to disease, or, from incapacity to rise to such a level as may be the standard, to a primary ineptitude. There is no absolute grand universal standard; there is one for each social level, and as there are so many levels, so are there many standards, many degrees of sanity, and accordingly many levels of insanity. There is a form of insanity little removed from health, and there are other states descending to more or less extreme forms of degradation. Crime may be insanity, and it is such when due to decadence from the strict moral principle to which the individual has been educated and which when in health he followed; but it would seem to be a positive virtue if it is the accomplishment of a career of special education whose formula is "*Tuum* means *meum* if I can get it"; or if not a virtue, it is, at any rate, thinking and acting in accordance with a standard, however much that standard may be outside the rules of the predominant factor which is strong enough to lay down the laws of government. Therefore it is at times right, at times wrong, to punish crime; for

crime is simply social incompatibility, though for varying reasons.

It might appear from the above that we are creating a paradox, that the man who by dint of his exertions raises himself to a higher level—that the parvenu or the *nouveau riche* who casts off the social garb of his native state, and assumes the manners of a higher grade, who brings into his new-born title the formed habits of his first life which he ineffectually tries to conceal under his new assumption of social evolution—is *pro facto* insane; that the repentant criminal who renounces his natural and former life and begins to tread the respectable social ladder, until at last he finds himself on the higher platform, does by the success of his efforts make himself insane. Surely such a conclusion seems absurd, and must imply a wrong postulate; but, in fact, there is no absurdity. The man who has changed the skin of his original life *rôle* is but a travesty of his assumed part; he is for the time being an actor, in a more or less accomplished way, and nothing really pleases him more than to have the opportunity of shuffling off his assumed clothing, mental and bodily, and of indulging in the delicious ease of his former and real self. Observe in the people under discussion there has been no real and entire change; it is usually a laughable farce that is being enacted. The new platform is not the real one, but a sham and a bad copy, and the man who treads it is always looked upon as an alien, to be utilised or kicked off as expediency may determine. If he assumes the mannerisms of his new rank, he

is found crude and wanting; if he believes that he is really fulfilling his new *rôle* as if to the manner born, he is under a delusion and is sure to do some silly act which brings upon him contempt or pity. He is an incoherent new creation, an unharmonised composition; and if he cannot recognise that he is only tolerated as a gummed-on excrescence, he is very likely to fall from his artificial rung, and to miss even the security of the footing upon which he stood before. The salvation of such a person lies in the fact that he knows that he is received by grace into the new sphere, and that he retains sufficient inhibition to conceal his real identity. A man who recognises that he is only a hanger-on of a new order is then not really out of his environment; he is sane and comes within the definition.

This introduces the question of "belief," which, as defined by Stout, involves "objective control of subjective activity." In other words, a man who believes is the creature of circumstances. A man believes in the existence of a Deity. Why? He has never seen nor had any sensual perception of the Deity. Where, then, is the objective control of his subjective idea of a Deity? It lies in his experience of causation. He has found out that all that he feels, sees, becomes conscious of, is due to something; and although he cannot always trace the cause, his subjective condition of unbelief is controlled by what goes on around him, the cause of which he does understand, and from these particulars he makes the induction that all things have a cause, and hence that there is one grand Cause. But his belief is the result of ex-

perience ; it is not a primary condition, and it does not always coincide with knowledge ; indeed it is often opposed to true knowledge.

A person may say that he “believes” in this or that because he has been told by another, whose word he has never had reason to doubt, that certain phenomena have occurred ; but if he does not take into account the conditions under which these reputed facts transpired, he may have no real foundation for his belief, no ground for the objective control of what his subjective experience would, if left to itself, have scouted, and thus his belief may be an error. The child’s beliefs are frequently errors because they lack, through want of experience, the element of true objective control. The beliefs of many adults are errors because of imperfect objective appreciation ; but when the true objective conditions are brought into proper relation with the subjective ideas, the old belief disappears and a new one takes its place ; *i. e.*, such is the process in the sane individual.

But what occurs in the insane ? The man who believes that he is bitten by snakes, or tortured by electricity, because he suffers from the shooting pains of a peripheral neuritis, does not hold a true belief ; he is the victim of a false belief, otherwise a delusion ; his subjective ideas are not controlled by the true objective (or rather by the absence of it), and it is impossible that they can be, as long as his subjective state lasts and he cannot be made to believe in the absence of the supposed objective. And why cannot he be made to believe in the absence of a fancied objective for his subjective condition ? Because his

old beliefs tell him that there must be a cause for his pricking and shooting pains ; and in his want of knowledge of the true cause, he thinks round until he finds what seems to be the cause of sudden pricks and shootings, viz., bites or electric shocks. It is possible that in the irritated and excited condition of his brain he may have a rapid spread of associated ideas which bring the words "snakes" or "electricity" before his eyes. He objectifies them accordingly, and thus does bring himself into a condition of true belief *quâ* his own diseased condition. His subjective state is controlled by his (apparently) objective condition, and so, though he is in harmony with himself, he is out of it with his surroundings, and he is "insane."

To be out of harmony with surroundings on the thinking side does not of necessity make a man "insane," if he knows how and can bring himself to act conformably with what he may believe to be an error. The man who is "before his time," the genius, the poet, are often in their beliefs and in their consciousness quite out of harmony with the present order of things ; but so long as they act in the accepted manner and do not tread upon the toes of their social compeers, they are at liberty to enjoy freedom ; but the moment they cease to confine themselves to thinking, and take up a line of action which is not understood, they imperil their communal existence. "I am not mad," said St. Paul, but he was thought to be, because his ideas were strange, and his habits were non-congenial to the accepted scale. The use of the term "insane" is, then,

artificial, and a practical mode of defining it might be—"such a mental state as authorises or justifies a person being placed under restraint."

There are hundreds of persons in the community who are insane both in what they say and in what they do; but they go through life without incurring any legal disability or social ban because their idiosyncrasies are tolerated, and it is not worth anyone's while to interfere with them; but the moment they commit an indiscretion which affects their own existence or which brings discredit on the friends or the family, the plea of insanity is urged in their favour, and what was before scientifically true, though socially denied, is now urged as a condition that should have been acknowledged and acted upon.

There are numbers of people in asylums who are much less affected mentally than are many in the outside world, who are lunatics by law alone, and who, if it were not for the fact that they are unable to get their own living, and that the law is elastic, and that certificates can be somewhat easily passed, might be at once restored to their pristine liberty; for though ultra-scientifically insane they were not considered so until for reasons of a greater or less degree of expediency they were placed in an asylum and thus became "insano."

Statistics of insanity are, it would seem, quite misleading. To say that so many out of every ten thousand of the population are insane means nothing more than that so many have been deemed unsuitable or incapable of being tolerated by their surroundings, and have therefore been removed to a social gather-

ing of their own. Statistics as to the increase of insanity depend upon the quantity of accommodation available, and upon the particular ideas of authorities and individuals and the state of the law at different periods. When the Act of 1870 came into force hundreds of insane patients were taken out of the asylums where they had been placed under lunacy certificates, and were removed into what were practically workhouses, where they were classed under a different heading, thus vitiating all inferences that had been drawn up as to their condition in former reports.

It may not matter much from one point of view if a person who has been classed as "lunatic" is removed to the list of "imbeciles"—he is not eliminated from the number per thousand of "persons of unsound mind"—but from the view of correctness of asylum statistics it makes all the difference; he disappears from the conclusions that have been drawn about his acquired insanity, and is born again into a "congenital" condition. But his regeneration throws out of gear scores of former columns of figures.

It is at present the custom to treat many undoubtedly insane people in "homes" or as private lodgers—"paying guests" is the term usually applied to them—in the houses of medical men. This plan has its advantages, though it is at times disastrous and is often risky, but it enables the family to avoid the outward appearance of "insanity," whilst the patient loses the advantages of the lunacy laws. Of course such a procedure still further falsifies the statistics of lunacy, and tends to show how artificial and formal the term "insanity" is.

The subject must be studied on broader lines than those of a mere isolated specialty, for it has its beginnings in the very earliest manifestations of mind and of conduct. It includes not only the palpable absurdities which declare the lunatic to the man in the street, but all the subtle vagaries of expression and action which distinguish the individual from his fellows, which gave him a personality, which fashion his habits, and either make a homogeneous atom of the community, inconspicuous but useful, or a brilliant crystallisation, attractive, perhaps, but dangerous to the coherent integrity of the social fabric.

It is now well recognised that all forms of disease have nervous or mental characteristics, as have also the various trends or temperaments of different people and races; and no disease can be said to be completely studied that does not include all the mental peculiarities, from mere irritability to forms of delirium, which are as much an integral part of the disordered condition as are the other signs to which chief attention has hitherto been paid. It is only necessary here to refer to the melancholy or excitement often present in heart disease, the suspicion and irritability of gout, the delirium of pneumonia or of acute febrile and eruptive disorders, the fancies of the phthisical, etc.; while as to the effects of temperament it is only necessary to compare the depressed forms of insanity seen in the Scotch asylums with the volatile display among Irish patients or in French institutions.

Most occupations have their own characteristics, their local signature, which asserts itself in the

gesture or speech of the agent. Even if people were dressed in the same clothes they could scarcely conceal their various identities, so much do occupation and habit declare the nature of the man. Only of late has the study of insanity formed part of the curriculum, and even now the subject is incomplete, for to a proper comprehension of it surely some insight into psychology, the normal working of the mind, is indispensable.

Among the multiplicity of things to be learned, this branch will probably have to yield to others which are thought to be of a more pressing nature, and the study of mankind will be relegated to the independent acumen of the student as a man of the world ; but of the importance of this inquiry, both in the interests of the patient and of the doctor himself, there cannot be any difference of opinion, and, as a rule, he will be the most successful man whose acquaintance with the sociology of his patients is the most complete.

In endeavouring to come to a conclusion in any case of supposed mental alienation we cannot expect to be able always to clear the mystery at one sitting. The lesion may be very obvious, but on the other hand it may require deep searching, because in some mental diseases the symptoms are very liable to repression at the instance of the patient. In general disease the physical signs are there, they can rarely be masked or altered, and conclusions can be drawn without the assistance of the patient ; but the insane man can in some instances so conceal his identity as to make diagnosis difficult or impossible at the moment.

Fortunately, in the majority of instances, the lunatic believes himself to be sane, and may after a time be made to declare himself, but it is always well to be quite satisfied of the reasons for which the protection of the law is sought. This does not, of course, affect the question of the soundness or unsoundness of the patient's mind as an actual fact, but it may be of interest as showing how artificial is the existing limitation of the term "insanity" to matters of expediency.

Urgency does often really exist in forming a conclusion on the state of mind, but *immer langsam* should always be the motto of the physician in dealing with a disease which—more, perhaps, than any other—may be largely identified with the subjectivity of the patient.

The essential idea involved in a scientific conception of disease is that it is a vital process occurring in response to a harmful stimulus, and defensive in purpose.

"Disease is a chemico-vital reaction to an inimical force which has broken through the first line of defence of the organism" (the skin and mucous membranes).

In what sense is insanity a disease according to this hypothesis? No one has taken a stronger view as to the part played in insanity by bacteria than has Dr. Ford Robertson, the author of the definition above given.

There are many forms of insanity which do not, as far as we can tell, owe their origin to any defect or injury to the "first line of defence of the organism;"

and conversely, in most instances of lesion of the skin and mucous membranes there is no sign of insanity. No doubt in some diseases produced by or associated with bacteria there are mental symptoms, and these must be viewed as part of the disease, of the chemico-vital reaction which is taking place. Such would seem to be the delusions and hallucinations which may occur in the course of pneumonia, or of fevers and acute eruptive disorders and perhaps also in some states of alcoholic and of puerperal insanity, besides other forms. There is a similarity between the symptoms of cases of what are called "toxic insanities," which certainly leads to the conclusion that whether the cause be an organism or not, the same kind of inimical force is at work setting up a chemico-vital reaction which involves tissues of the same kind in the different members of the species.

The tendency of the day is to connect all disease with the influence, direct or indirect, of organisms, and if this can be proved to be universally true, then of course insanity must be included, *i.e.*, if it is to be viewed as a "disease." Any other way of regarding it appears to be retrograde.

Whatever may be the true nature of the spiritual view of mind and of the ideas of the dualists they must remain hypotheses. All we know is that there is a natural side and that there are certain mental processes which appear in a more or less varying condition when the material side is stimulated, depending for their form of manifestation upon the actual condition of this material. When the mental

processes are of such a nature that we call them "insane" they indicate—from the only point from which we can estimate them—the presence of a chemico-vital change in the material organ of a nature which is still in many points obscure.

That the germ theory of insanity has been proved to be partially true must be admitted, but it does not appear to explain such conditions as what are called moral insanity, defects of involution, congenital abnormalities, or genetic variations which are "phenomena carefully to be distinguished from disease."

In a person of sound mind we expect that what are improperly called the "functions" of mind, but which are really the artificial divisions or elements of the "content" of mind, shall be in accordance, on analysis, with an accepted standard.

There is a unity in the mental process which forbids the exhibition of one of these elements except in combination with one or more of the others, though of course the prominence and intensity of one element in a content may be very striking. Thus in an act of attention the conation-feeling may be more prominent than the other elements of the whole content at the moment, but it is not the sole constituent of the act of attention.

It is usual to describe mental processes as being made up of sensation, perception, ideation, conation, feeling, and emotion, to which may be added cognition or memory—that is the consciousness, by representation, of a former condition, at times passive, but at others active or conative.

Now if to have these factors in correct display and under control, and to use them in the right way so that the results, such as judgment, course of action, logical reasoning, etc., are fitting—if so to experience and to use them is to be sane, then insanity might be described as the mental process in which one or more of the divisions of mind is found to be impaired or destroyed, and so we should have to look for our symptoms of the disease in some alteration of sensation, ideation, etc., and this is practically what we do.

If a patient has certain alterations in his perception of sensations, and in his ideas, or re-presentations, or images, we call them hallucinations and delusions. If he is unable to act upon correct judgment, we say that he has lost his power of inhibition and has become impulsive; if he is unable to recognise events through which he has recently passed, we say that he has lost his memory or power of recognition.

Now, though strictly speaking a person who displays loss or impairment of these elements of the mental content is certainly not *compos mentis*, it does not follow that he is therefore “insane” in the ordinary meaning of the term. Technically he may be so, but practically, unless some special circumstances occur which render necessary his certification, it would not do to call him “insane.”

We know that many people are continually doing things upon impulse, or allowing themselves to be persuaded into courses of action (against their better judgment, as they term it), when all the time they feel that they are acting upon lower mental processes

because these seem, perhaps, more immediately satisfactory; and when the result turns out to be disastrous they say, "I must have been mad to do it, for I knew better all the time." And so they were, if to be insane means failure in the proper line of conduct when all the elements for its correct performance are there, and if this process is not just casual (when it may be a mere mistake), but continuous.

It will not, however, be right to suppose that external or peripheral lesions of sensory organs causing altered sensations are of necessity met with when hallucinations are present, nor to suppose that there are no ideas and no acts of true volition because a person is deluded or impulsive. Many truly insane people have perfect sensations and correct ideas to a greater or less extent, but the difficulty consists in knowing how far the influence of a disordered part as shown by certain anomalous symptoms will extend; and therefore it is that when we find a failure in one of the co-ordinates of a mental content we are unable to say to what degree it will implicate all other mental processes, so intimately are these connected, so dependent one upon the other.

Probably it is correct to say that no one is always sane. Mistakes are often temporary insanities, whilst deceit and even some forms of crime are in many instances but the signs of a sound brain.

Many truly insane people are tolerated in the community because they do not seriously interfere with the social current; but when for various reasons they become troublesome and superfluous, they are

voted "legally insane," and are enucleated accordingly by the potential factor.

It is then evident that the definition of insanity is a qualified one, and that the conditions of its application must vary according to the general and particular fiat of the social system. That there should be conflicting opinions on the true application of the term to various individuals is only what must be expected, as there must also be as to the time when it is necessary to invoke the law and make the individual a lunatic who up to that moment was merely "nervous" or "eccentric."

On comparing insanity with disease in general we note that the latter occurs in two forms: either it is of a sudden acute kind which appears as if a definite entity (which, of course, it is not) had been introduced into the system, and finding there a suitable soil and pabulum, went through its course, hindering and embarrassing the normal functions of various organs, to end finally in destruction of the body which is attacked, or in recovery and return to the more or less normal condition; or else there is a slow and gradual alteration in one or more of the elements of a tissue which puts it out of harmony with the other constituents, and finally leads to death, in the main from physical causes. Examples of the former are zymotic diseases, of the latter, such changes as atheromatous degeneration, gouty deposits, slow rheumatoid degenerations, tumours, etc.

How does insanity compare with the conditions above named? In the former, *i.e.* in presence of such as zymotic causes, we may have disordered

nervous manifestations of the most foudroyant character. There may be seen acute delirium with delusions of the most exalted kind, with incoherence, and tumult indescribable of thought and action, caused by the poison of small pox, the nervous demonstrations ceasing with the development of the rash. It is no uncommon thing to witness nervous prostration and depression with suicidal impulses at the early stages of influenza ; and, on the other hand, there are the gradual developments of strange conduct, of delusions, of conditions which we recognise as insanity, without the antecedent striking change which at once called our attention to something different from usual, without any very definite limiting line between disorder and health ; and we find, sooner or later, that slow processes have been at work, giving time for a certain adjustment of function, and thus avoiding the jumble caused by the sudden displacement of many harmonised functions, but proceeding unalterably to the final distortion of relationships and the ultimate abolition of co-ordinated functions.

It is the custom to speak of insanity as a dissolution or degradation, and of the insane as degenerates, and when we come to examine the mental and bodily appearances we do see that there is a falling off in the latest developed and highest functions and structures.

To take the bodily symptoms first ; in different stages, from slight impairment down to the lowest condition of the general paralytic or the dement, an alteration may be seen in most of the tissues, from the epidermis to the blood. The skin is almost

invariably altered : it loses its healthy colour, becomes greasy or harsh, and ceases to act as an excretory organ ; the hair becomes dry and often falls out, and the scalp seems to lose its sensibility, for patients will pull out whole handfuls of hair quite easily and apparently without pain ; whilst the expression of the face is changed, from obliteration of the lines. The internal organs suffer, and fatty conditions of the heart with atheromatous states of the small arteries are common. I believe that the mucous membrane of the digestive tract undergoes ulceration as a result of trophic change, and there is no doubt that the bones become changed and more liable to break, whilst the blood is altered and charged with the products of decomposition of nerve structures. The bones undergo degeneration and become porous and fragile. There seems to be no tissue which may not suffer, and no function which may not be impaired, whether on the psychical or physical side. On the mental side there is everywhere a sign of reversion to the earlier conditions, loss of inhibition, decay of memory, display of unbridled passions, and general reduction to reflex acts with gradual obliteration of anything but the most elementary consciousness.

CHAPTER II

DIVISION OF THE SUBJECT

UP to a short time ago the study of insanity was conducted solely with reference to itself; that is, it was not thought necessary to have a knowledge of psychology. This is about as irrational a mode of studying the subject as it would be to investigate general pathological conditions without a knowledge of physiology and anatomy. It is quite true that many who are actually treating insanity have very little, if any, knowledge of psychology beyond what they have arrived at from their own introspection; but treatment on such a basis can scarcely go beyond the immediate relief of symptoms and can have no foundation on the true principles upon which alone the disease can be understood.

Psychology is best divided for purposes of study into transcendental, or the study of psychological processes without physical accompaniment, and empirical psychology, or that which is the product of observation or experience.

Talking about Hume, J. H. Burton says that "he made his work empirical and not metaphysical"; *i. e.*

it is founded on experiment. Again, Locke says, "The mind owes everything to an empirical, that is, experiential, source." The word "empirical" is sometimes used in the sense of quackery. To be an "empiric" may be taken to mean one who acts from observation without true scientific knowledge, but in psychology it means the taking the study of the question out of the realms of pure introspection merely, and subjecting it to experimental or experiential processes, which is not a matter of pure observation merely, but is characterised by variation and gradation of the phenomena and elimination of certain conditions. Another part of the study is concerned with "epistemology." Now this word from its etymology means simply "knowledge," but in its applied sense it is taken to mean our dealing with the nature or conditions of our knowledge and with its limits or its validity. Does knowledge let us into reality? Are things what they seem? Such are the problems of epistemology, and it must be confessed that at present the study of this purely philosophical side of the question appears to have little bearing upon the question of insanity except from a relative point of view, namely, as to whether in a given case the individual is capable of discussing in his usual intelligent manner, subjects with which he was formerly well acquainted, but cannot now be got to see in the same or in some other reasonably argued light.

Transcendental psychology, or metaphysics, is of little practical value except as a mental training. Its ground is becoming smaller as our knowledge increases. No doubt there are mental processes for

which we can find no physical condition, but these are being narrowed down, and in the distant future we shall probably have the whole subject placed on the experimental basis.

Of more importance is the study of psycho-physics, or the physical interpretation of psychical processes, such as the measurement of sensation by Fechner's law, the various forms of reaction-time for the determination of attention, experiments to determine the conditions of fatigue, and of the effects of various blood-poisons in this relationship. It is in this line that the new psychology is developing, and much as it has already done, more is still to be expected from it. It is now generally acknowledged that "effort" is a peripheral sensation and that the presence of a central directing factor such as was implied in the old idea of will and energy is unnecessary and misleading; but this much more reasonable explanation was only arrived at after experiment.

The term "mental physiology," which is adopted by the University of London, has been adversely criticised, but there is really a great deal to be said in its favour, inasmuch as it represents the tendency to assimilate the study of mental phenomena to that of other physiological bodily processes, a step which is apparently in the right direction and which has been productive already of more real knowledge of mental processes than have the theories of the metaphysicians of centuries past. It may be more convenient to use the term "psychology," but it should be with the distinct understanding that no claim for a special $\psi\chi\acute{\eta}$ is made. As long as "psychology"

means only a discussion of the phenomena that attend the brain and nervous system in action, well and good, but it is a pity to use a term which recalls ideas of the unattainable. Not that we should put aside as useless the work of the old metaphysicians. They described from their own introspective point of view how they thought, felt, and acted, and they also gave critical accounts of the conduct of others, and some contemplations on matter and the external world. But they had incorrect and limited notions of physiology, and they introduced spiritual force to explain what they could not otherwise account for. As a consequence psychology became a very mysterious study, to be approached very differently from the way in which the body generally was regarded; and in the long run it led to nothing beyond endless controversy according as one author's powers of analysis and description were better than those of another. It must be admitted that there is still much mystery about the subject. The physiological study of mental phenomena is a recent development, and there is still a large and unexplored dark territory. That brain material in action should appear as mental processes is a thing that we cannot understand, but though wonderful, it is not more so than any other process in nature, and it is just as inexplicable.

The conversion of grass and linseed into the fat proportions of a stalled ox, the selective appropriation of certain materials by cells of one kind and their rejection by others, is just as wonderful and inexplicable as are the molecular changes of brain

cells and their result in a sensation or an idea. Could anything be more surprising than to find such a product as water, visible and tangible, from the chemical combination, under certain conditions, of two gases, invisible and impalpable?

Before the introduction of psycho-physical processes we knew nothing about Sensation beyond that it was some change that occurred on the presentation of an object. We now know that Sensation and stimulation are governed by mathematical laws. We now know that Memory, or Recognition, can be expressed in terms of logarithms. Through having correct ideas about Fatigue we can regulate the work done in school by children and thus place pedagogy on a scientific basis.

Analysis of mind may perhaps be best understood by examining the converse process of composition. Let us put ourselves for the moment in the position of a Power making a man. We might imagine a process of the following kind to occur. The individual must be able to do two things: he must act, and he must think. To do the former, he must have an apparatus which shall within limits enable him to deal with other kinds of matter in obedience to what he thinks, hence the muscular machinery by which he moves here and there and performs what is desired. Of course this apparatus, as is the whole of the system, is nourished by a special arrangement of organs suitably placed. In order to protect this elaborate machinery from harm there must be an arrangement by which this self-acting organism shall follow up what is good for it or shall withdraw from

what is hurtful; hence feelings are introduced to act as the governor-balls of action, and there must be sensations, which are the organic interpretations of what is going on outside the individual but with which he has necessary relations. To save time and useless repetition, the material of which this organic machine is composed must have a memory, so that what has been once experienced may be turned to advantage on its recurrence. These remanets of experience are to be stored up as ideas which are connected by processes of association of complex development and available for new ranges of hitherto unexplained conditions. There must be a determining system which shall enable the individual to choose between one or more of these simple or complex ideas; and moreover, to these ideas must be added a condition of emotion which can act as a determining factor in states where action is desirable. So then we have an elaborated machine in which are a doing part, and a controlling or thinking part, the whole nourished by a common source of energy. This thinking part, we have found, may be conveniently divided into sensation, feeling, memory, emotion, ideation, conation, and will or choice. It is with the changes in one or all of these we have to deal in studying insanity, for they are all connected and inter-dependent. The life of the individual could not be properly carried on without the harmonious co-operation of all these dissected elements, and it is not too much to say that if one simple element fails, the whole is thrown out of gear. So then the question of the sanity of a man must be finally

judged by these elementary considerations. Are there in him any changes in his sensations, feelings, etc., and are they of such a nature as to affect his course of action towards himself or others? In practice we generally use ourselves as the standard with which we compare others. We say, "This man has different sensations, feelings, ideas, etc., from what he ought to have, forgetting all the time that each man's perceptions or ideas, his sensations and feelings, are individual and peculiar to himself, and that he has probably never had them put to any experimental test to see how far they correspond with, or differ from, the mean estimate of scientific record. This is not right. It makes one man, with all his own defects and idiosyncrasies, the test of another's competence, whilst all the time the standard he is using is artificial and indefinite. Hence the discrepancies in the various estimates held by different people about the sanity or insanity of others; too much is left to the personal equation of the observer, and the cold, unsympathetic standard of rigorous scientific method is neglected.

We must be careful not to push matters too far. How can the flight of ideas be registered? Who shall say that certain sequences and conclusions are incorrect because we cannot follow them or submit them to a formula? Because a person exhibits great emotion or feeling in connection with certain ideas or sensations, who is to say that it is in excess of what it should be, or how can one gauge the measure of another's sorrow? We cannot take every person into a laboratory and submit him to standard

measurements, but we can have general conclusions to refer to, and thus lessen the unfairness to the patient of judging him by a possibly imperfect referee.

How many men are there who ever submit themselves to a physical examination of their mental condition? We are all anxious about our teeth or kidneys and do not hesitate to submit ourselves to periodical investigation; but it requires some courage to have one's memory, one's senses, one's reaction-time or one's emotional state, submitted to accurate weighing, though the advantage to ourselves of such knowledge would be of the greatest service as leading us to take precautionary measures when any defect or deterioration is indicated. It is quite right that a good bodily standard should be maintained, for this often means mental equilibrium also; but seeing how great is the influence of mental processes on the general conditions of the body, it does seem extraordinary that psycho-physical investigations are so much neglected.

How often do people compare themselves with their own standard? As a rule they leave it to others to find out these defects, and so they blunder on, quietly negotiating these degenerative changes until their new self becomes habitual, and instead of boldly saying to themselves, "Is this change in my mental state a development or a decline?" they leave it to others to say, "He is not the man he was." The late Sir William Gull used to say that the old command "Know thyself" meant "Have your urine examined." We should extend this dictum to include an examination of the mental as well as of the bodily

condition. This imperfect knowledge of ourselves sends us blundering on, and spoils our correct estimate of others. Wundt is probably correct when he says that, "Man really thinks very little and very seldom. Many an action which looks like a manifestation of intelligence most surely originates in association." Hence it is that our opinions of people and things change because of the changing amount of our experience and of the associated results, and if the elements of association become impaired the judgments must suffer too. Everyday experience convinces us of the truth that people continue to hold positions long after they have ceased to be fit for them, because they are not conscious of the degeneration that has gradually been remodelling them, and they have never been taught the duty of casting up the balance-sheet of their conscious processes and of having an audit made of them. But, it may be fairly said, if we do submit to the test of cold experiment the memory, the sensation, the feeling, and to some extent the emotive state of a man, and find them according to the standard, how will that help us in the determination of ideas for which there is no standard, and of conduct for which there is no formula? The argument is not valid; for though ideas and conduct cannot be reduced to logarithms and terms of the calculus, there is yet a standard in the sociology of the moment. People who lag behind or who exceed the ideal standard, and who cannot be got to see that they are out of harmony with the social environment are either obstinate, which generally means incompetent, or are insane, or are possibly

so far ahead of their time that in any case they are objects of suspicion, and are liable to be dealt with arbitrarily by the compelling power of the predominant law. The reason why there is still a strong disposition even among scientific men to attach considerable faith to the metaphysicians is that there is a feeling of incapacity for understanding the higher mental processes (such as the formation of abstract ideas) upon any other hypothesis than that there must be a "spiritual" element which is beyond physical experiment and demonstration, and such speculation rests especially upon religious dicta and formulæ, the validity of which it is deemed heresy to question.

When the Apostle says, "There is a corporal body and there is a spiritual body," there appears to be no alternative but to accept the dictum to mean that there is the ordinary material structure which we can see and handle, and there is something else which if it be not material we cannot understand at all; for "spiritual" to mean anything to us must be material even in its most finely divided form. However much we may try to understand an essence, a force, a spirit, a power, or by whatever other name we mean to express the most powerful supreme, all-pervading force that we can imagine, it cannot but assume to us a material form; if ever we try to think of a force as not in its ultimate nature material, even in the finest and most atomic degree, we are lost in confusion and find ourselves at last clutching hold of a material ground as the only way in which we can approach the subject.

There is no help for it : if we accept the dictum of the Apostle we must conclude either that there is some impalpable agency at work which we have no means at present of investigating physically, or that there is a condition which, not being material, we can have no cognisance of. What is exactly meant when a "spiritual" body is spoken of we can only guess ; but it would seem to imply that something different from any, even the most minute and mathematically atomic, form of degree of matter is intended ; and inasmuch as we cannot conceive anything but as something, it seems hopeless to pursue the question.

We are concerned only with things that we can understand ; but all the same we may allow that our structure is only an unelaborated one, that it is capable of further developments, and that there may be processes going on around and among us of a nature absolutely out of relation with our organisation, but which may be only separated from our consciousness by a link which some day may be found. Until that link appears we can only use our best endeavours to make the most of what we have, using speculation as a pastime for thinking of what may be, and recognising that we are only one form of "thing," probably progressive and capable of elaboration, possibly, however, determinate and inferior to some other thing which may be now at this very moment round about us, shifting and playing us as we in our turn do the pawns on a chess-board.

To say that water can be turned into wine and that the dead can be raised to life and to believe these statements is to express our belief in what we cannot

understand, because such acts are of an entirely different order from anything that our organisation is capable of; and, beyond thinking of them with wonder and speculation and acknowledgment of our own helplessness in the face of a Being with such inconceivable potentiality, we are beating the air and losing the time at disposal for investigating the still incomplete tale of where and what we are.

Hence the study of metaphysics is not likely to lead us to any certainty, because the order is different in development and degree from anything that we have experienced, inasmuch as it implies a factor to which our experience is a stranger. It is true that some metaphysical theories have been drafted into the domain of practical psychology, but as the latter is still incomplete the former still retains a non-negligible quantity of material for discussion.

This is perhaps the best opportunity for referring to the subject of "matter." There appears to be a special fence around the question of "mind and matter," as if it enclosed a precious relic to be approached with awe and reverence.

We recognise that there are some forms of "matter" which under no circumstances can move or reproduce themselves, which always undergo a change when subjected to certain external influences, and a change of a constant nature, too, the influences being the same. We call them "inanimate" objects as opposed to other forms of "matter" which we recognise as being capable of movement and of reproduction, and these we call "animated" objects. Talk as we may about the lowest forms of this

“animated” or “live” material, and theorise as we may, it remains that no one has hitherto proved that under any influence known to us the “passive” can ever be got to take on the properties of the “active” matter.

Ourselves, the highest development of the animated creation, are a mixture; we consist of some inanimate stuff, incapable of anything itself beyond being tossed here and deposited there, and of other stuff which has in it what we call “life;” and what this “life” is has never been hitherto explained, and I fail to see that any recent theory has brought us to a more real understanding of it. We know nothing more of the real nature of it than did all the generations that have gone before us. We do, perhaps, know more of the conditions under which it exists, and we can say with more certainty what is and what is not “alive”; we know many more forms in which “life” is, and of course we shall with more perfect instruments find out, possibly, more forms of it than we are aware of. But what then? At present we only know that there are things which have properties that we can to some extent understand, and that there is another class that we cannot grasp and never have done. Whether we ever shall be able to grasp this “living” group is a question of the future, and to the future it must be left. Our concern is to obtain as true a knowledge as possible of what is, and to use means in trying to penetrate mysteries which seem at present interminable. It is not that we *like* to go on in this interminable quest—we *must* go on; life is movement, standing still is death, and as long as we live what

we call hopes, aspirations, desires, strivings, all of which are movements, must of necessity go on because they are life, and when they stop we are dead. It is commonly said that we do not know what "matter" is. Certainly we do not know all about it; we do know that it reacts in a certain way to reagents, but we do not know how it first arose—how it came about. We know that it is a different thing altogether in one person from what it is in another, and that at one time we look at it in a very different way from what we do at another; and in doing this we must recognise that we may at some future time look at it in a very different way from what we do now, and the conclusion we come to is, not that there is "no matter," but that there is something in an altering relationship to ourselves, but that what it really is and what our ultimate affinity with it may be we can only speculate upon.

It is difficult to get people of some ways of religious thinking to see that there is no atheism in discussing the "material" and the "spiritual" side of the question, because they do not apparently understand that inquiry is only the necessary condition of living, and they are jealous because some of the ground upon which they stand has been shown to be more easily intelligible when placed in another category, and because there is every probability that more will crumble away from beneath their feet. That it should shock some people to assert that sensation, attention, and several other psychical processes can be brought within the range of mathematics is really no credit to the users of those faculties, because they

ought to know that progress is the essence of life, and that even in their own creeds there is no stability, whilst their own ideal is always being interpreted in fresh ways.

Although appreciation of "matter" depends as a rule on the living element with which it is brought into relation, so that what is green to one is red to another, what is hot to one is cold to another, what is nauseating to one is indifferent to another, it must be kept in view that there may be a change in the state of the "matter" itself, due to its passive submission to external influences, which gives an entirely different conception of its nature to the living factor, so that the changes of relationship are sometimes on one side, sometimes on the other, and, inasmuch as on the one side there is always a change, a movement going on as its very existence implies, it is evident that any definite idea of what matter really is can only be expressed in terms of the unchangeable, and since we cannot conceive the unchangeable we can never have anything beyond a relative idea as to what "matter" is.

To the savage the stone has a meaning of one kind, to the scientific man it has another, and to different orders of scientists it has yet other significance. What is at one time an object of dread or of hate may become one of confidence or affection. All is relative. The present order changes, giving place to the new, and then perhaps reverting to former phases; for a mistaken idea may point, not necessarily to incorrectness, but to what was a truth at the moment, for the particular conditions then

existing ; and instead of longing for an assured eternal rest which they cannot conceive, men should take delight and glory in their instability, in their ceaseless change of relationship, which is indeed the true meaning of hope, sometimes leaning to what we term happiness when the result is agreeable, but often to misery when the changes of relationship are due to development or dissolution upsetting the harmony of the moment.

During the last few years we have narrowed down some processes which were understood as "spiritual" to another category, which we term "physical." What is there of dishonour to the processes which have been brought to change their state from mystery (which is another term for ignorance or imperfectly recognised relationship) to light ? If they were in a false position, or rather if we were in a false relationship to them, the fault is ours ; they never made pretensions to be what they were not ; indeed they were wronged by being held to be not what they were. There are still others left, some of which are possibly calling out in language which we cannot yet understand for their true cognition ; in course of time these will be seen in a new relationship, we shall "understand" them ; but we seem even now as far off as ever when we face the ultimate question, What was the spirit, the force, the Divine afflatus, call it what you will, which caused to "live" a dead man of three days, whose flesh stank ?

This seems the proper place in which to refer to the doctrine which nowadays finds the most acceptance in explaining the relationship between physical

and psychical processes as occurring in the nervous system. The doctrine is termed that of "psycho-physical parallelism," and it appears to be held by those who dislike to be spoken of as "materialists," expressing the view that brain matter in action causes mental phenomena. It is truly said that we cannot understand how two such different processes as sensation and ideation can result, in the sense of being caused, from the action of nerve cells.

Why should the action of nerve-cells not result in something else quite different from what we call "mind"? It is said that during the action of the brain certain manifestations arise, not caused by but parallel with them, beginning and ending with the action of the material structure, faltering when the tissue is impaired, changing in development and demonstration as the tissue assumes a higher or a lower grade. If there is a plan on which the nervous system is built, there must be a similar plan in which the psychical side functions, and these must correspond in type if this theory is to hold good. It does seem as if the nervous system works on the principle of sensori-motor constitution: there is an ingoing, a central, and an outgoing process on the physical side, and on the psychical side there is also a sensori-motor reaction; we have a sensation, a perception or ideal central process, and a voluntary or motor terminal. If we prefer to say one process is co-existent, but not caused by the other, I do not see that we are any nearer to an explanation. On the contrary, it appears to be an admission that there is something altogether different between mental or

psychical and physical processes, though the one is incapable of demonstration without the other, and must be secondary to it in actual point of time. We cannot imagine an unsound nervous system and sound psychical processes, just as we cannot conceive sound brain to co-exist with unsound mind; and so we conclude that there must be a different class of mind for every brain; and inasmuch as the molecular conditions of the material structure are always changing in accordance with the varying conditions of life, so must the psychical manifestations be determined by the new combinations that are set up.

A complete view of this side of the connection between psychical and physical processes can best be obtained by reading the views of Dr. Hughlings Jackson in the Croonian Lectures. But some may ask, Is it the case that the physical processes always precede the mental? Does it not seem that when thinking and reflection are going on, that when arguments *pro* and *con.* are being digested and there is apparently no direct stimulation by external processes, there is an action of the purely psychical on the physical structure, modifying the latter and leaving it in a condition to react in a new phase? Such a view cannot be held because analysis of all modes of mental action leads to the conclusion that if there is no apparent action on the sensory centres there may yet be traced a connection with some idea whose origin was external, it may be only a word, and from which all subsequent impulses have been derived; for be it remembered that a process once set up in the brain will work away in the channels

most in relationship with it until some other stimulus arises which in its turn monopolises the situation. We are always thinking of something, and there seems to be no combination of ideas which cannot ultimately be reduced to sensorial elements.

The complete study of insanity should, then, be prefaced by that of psychology, and it should include logic or the science of correct reasoning, sociology or the science which treats of the laws of the development of society, and psycho-physics or the application of physical processes to the elucidation of mental phenomena.

CHAPTER III

CONSCIOUSNESS

CONSCIOUSNESS is the mental equivalent of brain in action—that is, when the brain is subjected to a stimulus from without or from within. It can scarcely, however, be said to include the processes of mere nutrition and growth under ordinary conditions, unless the feeling of being well or of being ill, which are, undoubtedly, states of consciousness, be included. It is also right that the influences of such new developments as take place during the period of adolescence, or of such degenerate changes as occur at the climacteric should be included in the modifying conditions of consciousness. We talk of being strong or weak, of knowing this or that, of feeling different from what we used to be, and these are states of consciousness only present when the brain is awake, in action, and absent when the higher parts of the brain are at rest as in sleep, under the influence of narcotics, or after injuries, or in some forms of disease. There are various degrees of consciousness, but it is doubtful if, during the waking state, it is not always present in a more or less intense degree.

We may suppose that the brain, if absolutely free during its working state from every external influence, might continue its mere organic life without consciousness, but such a condition of things is not possible, and therefore it may be accepted that in health there is always present consciousness to some extent. As to what it is, beyond knowing or feeling, we cannot at present say. Some go so far as to allow consciousness in a diminished or modified form to inorganic matter, but theories by the hylozoists on this subject have not hitherto led us to any clearer conception of consciousness as we understand it; they seem to be hypotheses founded on the wish to reduce everything to some earlier undeveloped condition whose properties must be supposed to represent in an elementary form the elaborated product of the present moment. .

It is the custom to talk of "subject-consciousness," or that form of knowing which concerns our own actual state and our relation to what is outside us, and "object-consciousness," or our knowledge of what is outside us and its relation to ourselves. These two forms in health are more or less in a state of mobile equilibrium, at times varying in their proportions the one to the other according as we are occupied with ourselves or with what is going on around us. In obsession, or that state in which there is the constant presence of a haunting idea, and to a greater extent in ecstasy, which in its perfect form is a reduction to a complete monoideism, consciousness, either of the subjective or objective variety, attains its highest concentration. Writers on the

subject of the degree of consciousness present in disease insist upon a decline of object-consciousness and a rise of subject-consciousness according to the form and depth of the disease. In estimating the value of this relative rise and decline it should be remarked that in consciousness there is always present some degree of emotional tone—states of consciousness are agreeable or painful, and it is difficult to imagine an absolutely neutral state, though theoretically such a condition should be possible.

In some conditions of insanity there is no doubt as to the greater degree of consciousness on the subjective side. The individual is wholly taken up with his own state, and takes no notice of what is going on outside, and this is the condition of melancholia; but to say that mania connotes greater intensity on the subjective and less on the objective side is not so clear, though it is quite true. And what can be said of those states of stupor where, to all appearances, the mind is a blank, though on recovery the patient is able to explain that he had all the time acute consciousness of what was going on? Here the morbid subject-consciousness is at its greatest degree. No doubt, in extreme degrees of dementia, consciousness, both of self and of passing events, is reduced to a minimum, but it seems not possible, nor to be of any advantage, to classify conditions of reduction either by the probable amount of consciousness present, or by the relative proportions of subject and object in the element. It seems more likely that the degree of feeling and its quality present in any content of consciousness

“content” means any condition of our consciousness at the moment) determines our knowledge of what is going on within us or in the outside world.

We are acutely sensible of what is disagreeable or pleasant, whereas a neutral-toned condition of consciousness is apt to be little noticed or even remembered. It is very difficult to estimate the degree or amount of consciousness present in insane states. Patients who, on recovery, are asked questions about what they remember of their diseased state—and this applies to all the forms that the insanity may have shown—can rarely give reliable or clear explanations. They may astonish by saying what we know did actually occur at a time when they appeared to be dead to any world, either internal or external; or they will say that they remember little or nothing of what has occurred at a time when they seemed to be aware of their surroundings. But this does not by any means imply that even then there was no consciousness; it simply means that they cannot remember, though they have a confused idea of being in another condition.

It is a very common occurrence for people who have made determined suicidal attempts to say that they have no knowledge of having so acted, but it is difficult to believe that some form or degree of consciousness was not then present. Lazarus was brought back to life after he had been dead three days. There can be little doubt that he was closely interviewed by the inquisitive interviewer of the period as to the nature of his experiences during his transition stages, and the probable reason why we

have no testimony as to his experiences is that he was unable to tell anything, because his consciousness of different states was not interchangeable. At different moments we are different individuals, and the sequence of individualities may be so connected that the consciousness of these different personalities appears as one experience, but it may be easily understood that under new conditions of existence the knowledge or consciousness of the state will be quite different from former experiences, and that therefore there will be no memory or recognition of it. What is called "double-consciousness," whether due to separate action of the hemispheres or to peculiar temporary states of the higher centres, is an instance of conditions associated with states of consciousness that are not interchangeable. The knowledge of one condition is as entirely separate from that of the other as if neither existed. That a comparison of the consciousness of different people shows a similarity in kind merely means that their nervous centres respond to stimuli in a similar manner; but there is every reason for thinking that, with a difference in nervous structure or development, the consciousness or the psychical side of that different structure may be an experience in no way resembling the first, and, indeed, one standing in no comparable relation with it. The animal is, then, distinct from the human consciousness as far as we can tell, and all that we can certainly say is that there is an individual self-awareness when nervous substance is functioning, but that we have no power of saying what it is,

even in ourselves, beyond that a complex condition which we call consciousness comes about when structure of a certain kind moves in a certain way.

The rapidity of succession of different kinds of consciousness has an important bearing on recognition or memory, and it accounts in some degree for the more or less perfect histories which people in some insane states can give of their experiences.

There is no doubt that the degree of receptivity, or of understanding the meaning of presentation, depends upon what is usually termed quickness of apprehension. "Read and understand," says the Psalmist, and it is of no use to read if one does not understand; but what may be called the consciousness of what is read depends upon several factors, such as the strangeness or newness of the subject, the amount of attention given to it, and the rapidity of reading. Each individual has a personal equation of receptivity. To read very quickly may give the consciousness of having had certain indefinite impressions, but no power of recognition is possible in these conditions because the rapidity of the impressions has been too great; there has been too little time allowed for them to have risen into true consciousness, and the same applies to a rapid succession of objects seen, or heard, or felt, where, beyond a vague memory that there has been a succession of impressions, nothing definite, nothing showing a true consciousness of what did occur, can be elicited. The recalling of former conscious states in their entirety—that is, with the full emotional

complement—is very difficult, if not to most people unattainable, because the idea works, as it were, downwards, and it is next to, if not quite, impossible to set in motion the sensation and perception centres which in the first instance gave rise to the idea. This is a fortunate thing, because, if the emotional tone of the idea were always revived with the intensity of the sensory feeling, the remembrance of former conscious states would for the most part be intolerable, and so our images of previous conscious states are but shadows of real experiences, always tolerable, sometimes so shadowy as to be practically non-existent. And hence it comes to pass that in a person who has recovered from an attack of insanity little or nothing of the state that has been passed through can be recognised.

We are led to believe that in states of insanity a large part of the higher centres which have chiefly to do with consciousness proper is really out of action altogether, and that what we see in the misery of a person in a state of acute melancholia or in the hilarity of a maniacal excitement is not due to an increased but rather to a much diminished action of the higher centres as a whole.

The sensory consciousness is (if the two can be separated) much more striking and realistic than is the ideational consciousness. Men can more easily tolerate a painful idea than a sensory pain, and no idea of the frosty Caucasus will enable us to hold a fire in the hand, but in both cases (ideational and sensory consciousness) it is impossible so to realise the original condition, so to revivify the whole of the

conscious experience of the moment, as to be able to re-enter the former experience.

If it were possible to recall states of consciousness, what a terrible or enviable lot would be that of the actor! Though the tragedian may assume the expression and the action of the murderer, or the comedian the light hilarity of the libertine, they do not realise the full consciousness of the subject; when they appear to the audience to be shattered by grief or elated with joy they are often in very different states of consciousness, and are laughing at the effect they create in others. This must be so, because the conditions of a full state of consciousness can only be brought about by a completeness of conditions at the moment existing, and these are not possible to the man who is only pervaded with idea. In insanity it is very likely that consciousness of such processes as are in action may be intense, but the condition is one of irritation or excitement by disease of actual tracts in a way which no effort of the actor can recall; and when on return to health the patient is asked to state what he felt he cannot do so because he is unable to start again the processes with their accompaniments which conditioned the state of mind at the time.

There may be individuals of excitable organisation who are able to—or rather who cannot help—resume former states of consciousness more easily and extensively than others, but the power to do this is usually connected with an organisation of hereditary or acquired instability, and even in these it is rare to see a development of consciousness rising to the

intensity of the first state. What are called "degrees of consciousness" have been used for estimating the degree or profoundness of mental affection; thus it is said that in mental disorder of the least pronounced type there is increase of subject-consciousness and lessening of object-consciousness, and that as the disease becomes more advanced and deeper there is still greater increase in subject-, and still more loss of object-consciousness. To some extent I believe this to be true, and the degree appears to me to have a relation to the rapidity and extent with which the morbid processes in the brain are working. In melancholia and in ecstasy the individual does certainly seem to be engrossed with his own woes and to be regardless of what goes on around him, but in acute mania the rapidity of brain action appears to be so great that in most of the cases true consciousness appears absent; there is, as it were, no time for the person to become conscious of what he is saying or doing; and this I believe to be the reason why the accounts vary so much by patients whom we ask to tell us of their morbid experiences; some (the melancholy) can inform us that they remember vividly a certain narrow but intense condition, whilst others (the maniacal) have but a blurred image of many short experiences. Inasmuch as our ideas of time result from the connection which we remember between successions of events, it is obvious that accuracy of time-notions must in altered states of consciousness be considerably impaired. To the person who has been profoundly melancholy or who has been reduced to a state of mono-ideism the course

of time will, on his recovery, be quite undefined ; it will seem to have been long or short according to circumstances, but as a rule vastly different from the reality ; whilst to a person who has been in a delirious condition the time, though short really, may appear to have been ages because of the number of disconnected events which have been in consciousness.

The importance of the organic states to our knowledge of time and to states of consciousness has been insisted on, and it is undeniably true that the rhythmic actions of the viscera do serve by their regular or irregular functioning to mark off periods, and in this way to divide up existence into stadia. Probably this has more to do with the conscious states of the lower animals than of man, because they live under more monotonous and narrow-range conditions. The recurrence of the sexual feelings forms a distinct epoch of time, as does also the feeling of hunger. To a man accustomed to exercise the oncoming of a feeling of fatigue may show the distance he has compassed and therefore the time of day. I remember once asking a German peasant how far it was from one place to another. His reply was, "Nur zwei pfeifen" —only two pipes ! the ultimate radicle being here made up from organic sensations such as muscular contractions, the degree of the feeling of satiety, the rapidity of the combustion of his tobacco, etc.

To the idiot consciousness must mainly consist of the memory of organic states ; to the insane person it is very acute or it may be absolutely non-existent ; indeed, I have seen it so far obliterated that it was

possible to perform a small surgical operation without the use of an anæsthetic.

Consciousness is, then, a state of mind which is personal and individual; it is for the moment, and it changes in accordance with experience and constitution. Hence the impossibility of realising, of understanding, the mental conditions under which people act; all that we can do is to argue back from the acts to the states which initiated them. To the timid man, the mind or consciousness of the lion-tamer, the snake-charmer, the warrior, is an impossibility, it belongs to a different category and however he may strive to enter into it, it must remain a sealed book because he has no key to the language of it. The result of strenuous endeavour to compass the mind or consciousness of others is the setting up of an artificial state which may completely alter the original trend. If we are placed in constant proximity with insane people or with criminals, we are apt to become tricky or suspicious, such is the effect of habit in determining states of consciousness; and therefore it is argued that the proper treatment of crime is to set up a different form of consciousness by associations which will eventually bring about a different habit; but it is as difficult to make a bad man good as it is to make a good man bad, and the failures only show that the original trend of consciousness is a question of personal equation, susceptible perhaps of modification but rarely of absolute alteration. For instance, a person may have a natural deficiency of a sense of honour, may be addicted to lying and deceit; as he grows up he may

by physical correction and other methods be taught to develop to some extent a false consciousness and to appear to others as an upright citizen, but the change is only veneer, and if left to himself he will slide back into the channel in which his thoughts run most easily. Another has a constitutional horror of a certain profession or business; he may by living in the company of those constantly engaged in the particular work apparently be able to overcome his aversion, but, as a rule, the new consciousness is a constant struggle with the old ever-present one and in the end it fails to hold its own.

Consciousness is, then, no key to an individual's character. It is merely a state of mind at the moment existing, a complex condition which is the result of many circumstances and is the secret of each man for himself; it is often not to be judged by action; and the quality of it, *i. e.* the feeling connected with it, is quite inscrutable to any but to the individual.

Though it cannot be said that consciousness is a condition absolutely independent of feeling, for we may conceive a neutral consciousness, it is yet certain that feeling is the essence of the greater or less prominence of a conscious process; in fact, some have gone so far as to describe consciousness as states of feeling. The more we are conscious the more there is of feeling in the content of the process, but it is only a qualifying element, and it must be admitted that the process may occur without the perceptible presence of feeling. Beyond the acknowledgment that in talking of being conscious, or of consciousness, we are merely giving a name to a process which

occurs when brain tissue is functioning, we seem very little, if at all, wiser than the ancients. We seem no nearer to the grasp of the fact of what consciousness really is, as to how it is that the active life of brain elements should of necessity correspond with or result in (whichever view be taken) the form we recognise. For it must be that the forms and degrees of consciousness are the only way in which the activity of brain cells can show itself; at least, if any other mode of resolution does exist, it is not known to us; and it is against what we can conceive to hold that matter in action can be displayed in forms so different in kind that though one is appreciable, the other is absolutely unknown, allowance being, of course, made for the possibility of some result which is not consciousness, of the working in the lowest degree of that tissue which at a certain intensity does mean the conscious process. Are those individuals to whom what may be called lower degrees of consciousness are possible, conditions which may be very different from what, though without any standard, is generally recognised as the usual conscious state, people to whom a first sight is vouchsafed of the change from the physical to the psychical, antecedent to the greater change which is necessary before the majority can say that they feel or know? It may be so, and therefore it is ignorance or perversity to deny that conditions do not exist or processes occur because a minority alone experiences them. Mere consciousness does not prove existence. A weight of one grain placed upon the palm of the hand is not felt, and as far as mere feeling goes

there is no consciousness of its existence, but the aid of other senses informs us that it does nevertheless exist, and that it might to another individual be an actual possibility of skin-consciousness.

How can we, then, attempt to fix limits to the beginning or extent of consciousness? A lower or a higher consciousness may be altogether different in kind from ordinary experience, and if we have to revert to such a shift as the doctrine of psychophysical parallelism to explain what we mean by the connection between mind and matter, a doctrine which but shows ignorant striving, how shall we construct a tenable theory about something which may be, in kind, an experience which is impossible to the majority? It must be left to the minority to formulate their own special processes and then to compel their acceptance by the unbelievers.

States of consciousness as already discussed are to a greater or less degree accompanied by feeling, but it is probably incorrect to say that consciousness and feeling are synonymous terms, for each may exist without the other. In these days there is a disposition to acknowledge that the term "consciousness" must be expanded to include those peculiar conditions through which some people pass in which they receive impressions of what is happening elsewhere, feelings of a kind strange and inscrutable with our present powers of analysis. Such are the states of what is called telepathy, second sight, etc. Amid all the quackery and deception which have been through ages associated with these manifestations we cannot but recognise that instances do occur, well authenti-

cated, of forms of consciousness for which no external causative agent can be found, and that some definite influence has been at work is proved by subsequent events. To deny that there are forms of matter visible and tangible to some few only is ridiculous in the face of what we already know about idiosyncrasies and special sensitivity.

A consideration of the remarkable impressions received upon sensitive plates in a dark-room shown by Dr. Russell, and the demonstrations of X and N rays open up entirely new fields of investigation, and must enlarge our ideas of consciousness to include forms of the realisation by some of influences which are outside the appreciation of the many, and are possible to those alone who have the capacity to receive them.

We know that some persons of unusual powers of concentration can revivify with the accuracy of the primary perception what they have already seen or heard, and that these sights and sounds are projected correctly as in the first impression. It has been suggested (Sully) that in these persons the very tracts and processes which were originally used are made again to function but in the reverse direction, and it is possible that this explanation is the true one, provided that the time that has elapsed between the first impression and the revival is not too long.

It is certain that at different periods of our lives we pass through states of consciousness of which we are unable to give any account, and it is probable that the receptive and emissive qualities of living matter vary in kind and intensity at different epochs.

We may look upon a sleeping genius with no

other feelings than those of an indifferent consciousness, but we see the same person in action and we experience an electric tension due to the personality of living force, a consciousness possible, however, to those alone who have the apparatus adapted for the receptivity.

Faith is to the spirit what experience is to the flesh. We know nothing of the "spiritual consciousness," but our consciousness of the flesh is expanding, and if we allow that some reported forms of consciousness appear to be alien and inscrutable we must not deny their possibility, because from our point of view flesh and spirit are only different states of the same thing, the one as really unintelligible to us as is the other.

CHAPTER IV

SYMPTOMS OF INSANITY

It is usual in text-books to consider the various states in which patients come before us, under the headings of Mania, Melancholia, Stupor, etc., and to subdivide these into the varieties corresponding with the acuteness of the symptoms, the presence of delusions, the rhythm of recurrence, and other associated phenomena. Now the elevation into special forms of insanity of these variations due to prominence of one or other particular symptom, and the devotion of particular chapters to them, is very confusing to the student who endeavours to make his reading tally with his practical work; and it prevents him from taking a comprehensive grasp of the subject, and from seeing that these different "forms of insanity" are merely states of the same thing, that they are only different degrees of reduction, and that at present we know of no law which regulates the prominence of one form or the other in any case of impairment of mind which comes under notice. The text-books are universal in postulating that of all the forms in which insanity presents itself, that of Melancholia is one of least reduction, that it is the

condition nearest approaching health, the one through which a person would naturally pass on becoming insane, and through which he would again pass if after suffering from a more profound lesion, he should again recover.

If the progress of the disease is not arrested in this first stage but proceeds to a greater reduction, the case becomes one of Mania, and if the reduction is still greater, then the condition becomes one of Stupor. So that if we were to construct a descending scale from health to degeneration, we should have something approaching the following series : health, melancholia (simple), melancholia with delusions, mania, stupor, idiocy, and imbecility.

It may be true that some cases do show the gradual descent through melancholia into stupor, but it is equally certain that very often this gradual transition cannot be timed, and that a person who becomes insane appears to develop at once a maniacal or a stuporose state without passing through the intermediate stages, and indeed the states seem at times to be interchangeable, and the patient who would one day be placed in the category of mania might the next day be in that of melancholia or stupor. How useless, then, is the statutory table which forces the compilers of statistics to say that of the numbers of patients resident in asylums, so many are melancholy, so many maniacal, so many stuporous, or, as they prefer to express it, in a state of acute dementia, whilst, if the results were taken a few hours earlier or later, the tables might be altogether different. What would be the value of records showing that in any particular

hospital or groups of hospitals on any particular day there were so many cases of pneumonia in the stage of hepatization and so many in that of resolution !

If a person becomes insane, there is nothing to show what form the symptoms will assume, and if he should recover and again become insane, it by no means follows that the symptoms will be repeated in the same order.

In investigating the symptomatology of disease in general, it is well to bear in mind that there are two distinct groups of symptoms, one group consisting of those due to the general conditions, such as the pulse, temperature, visceral derangements, etc. ; the other consisting of those due to the particular organ involved. Thus in, say, enteric fever we note the constitutional signs of quickened circulation, elevation of temperature, thirst, etc., and the special symptoms of local pain and tenderness, sloughing and diarrhœa due to the particular bowel lesion, and a similar discrimination should be exercised in dealing with the insane.

In all cases we must, then, regard the special and the general symptoms, and we shall see that there is a great variety in the latter in many instances of one or other of the three forms of insanity which are usually described in the text-books, and also that degrees of prominence or acuteness of some of the former (the special symptoms) have been made the ground of minute sub-classifications which are confusing and unnecessary.

We read of "acute mania," of "acute transitory mania," of "acute delirious mania," of "typhoid

mania," of "folie circulaire," and minute descriptions of symptoms are given with the object of differentiating them, and with the intention of leading us to infer that the natural history of one is quite different from that of the others and has a specific character; whereas the proper way to view them is to recognise that in all these modifications it is the same organ that is affected, that the same cause may be at the root of all the different forms, and that we have no ground for supposing that there is a form of treatment specially appropriated to each. It would be wrong to deny that there must be some underlying condition which makes a person at one time have an attack of insanity in which the special sensory or motor symptoms are the most prominent, and at another an attack where (without any apparent change in the intensity of the cause) the delirium or the general constitutional signs are the most striking, but we know nothing of these underlying conditions except in the general way of saying that they probably have to do with the suddenness or intensity of action of the cause, or that the tissue is weaker in one instance than in the other, and is then less able to resist the attacking agent whatever it may be, whilst we are apt to lose sight of the great fact of the unity in diversity of the symptoms, a fact which teaches that the essential thing to bear in mind is that the central organ is impaired, and that we may be prepared for a development of symptoms which follow no rule that we know of, and which cannot be placed under the categories which are said to be exact.

Take the form known as "folie circulaire." Is it

anything more than an ordinary acute insanity with the rhythmic element more in evidence than usual? If we survey the various forms given in the text-books of "melancholia," it does not appear that "resistive melancholy," "melancholia attonita," "simple melancholia," or "delusional melancholia" are specific forms; for in all of them there is to be found some degree of muscular disturbance, but at one time it is more prominent than at another, and it may even be as troublesome and as striking as in the muscular demonstrations in a case of so-called mania; indeed, it is not always easy to say whether a given case is one of "mania" or "melancholia;" and whilst one person will place it in one category, another will say the opposite, the main features being that both are agreed upon the acuteness and the intensity of one or more prominent symptoms. If it could be proved that the central lesion in two cases, one where the symptoms were those of acute mania, the other those of acute melancholia, was essentially different and fundamental, there would be every reason for insisting upon the retaining of these various forms and sub-forms as truly connotative terms.

If, for instance, it was granted that melancholia is a condition of impairment of the nerve-cell, whilst mania showed a lesion in the processes, and that stupor was solely connected with the vaso-motor system, then we should be justified in making minute distinctions based upon the pathological differences; and not only so, but in looking out for more differentiates in symptoms with a view to finding still more detailed differences in the ultimate morbid

anatomy of the fine structures. But so far from this being so, appearances are much against the supposition; for nothing is more certain than that a state of acute stupor may without apparent reason take the place, almost momentarily, of acute maniacal or melancholic states, and that it may, also in a moment, cease and be replaced by other groups of symptoms. It is here difficult to believe that this oscillation of symptoms is not due to a parallel change in the central tissue, but at present we are quite without knowledge that it is so.

I have seen a male patient change in the course of a few minutes from an exceedingly noisy, violent and generally maniacal condition to one of stupor of an extreme degree, and remain in that condition for weeks, followed eventually by a return to the former state. How excellent would it be if we could say on the advent of the stuporous condition, "Now we see that the central lesion has taken form or direction, now such and such a tissue or element or process has come within the sphere of disease or alteration, and the probabilities or the certainties are within range of compass." I recall seeing and conversing with a prisoner, on his trial for the murder of his mother, a few minutes before he was placed in the dock. He was mentally in what would be called a condition of restless melancholia, but shortly after the trial began he became stuporous to such an extent as to arrest the attention of the judge, and he remained in that state for some time after his removal to the criminal asylum, where he eventually died in an attack of violent delirium. It seems to

me that we gain nothing in a case like this by saying that he is in this, that, or the other form of insanity, whilst all the time we know nothing of the conditioning of the various forms, not even if there are advancing lesions in the minute structures, or whether there is simply a deeper degree of affection of tissues which are already thrown out of normal co-operation. It does not appear that there is any practical utility as regards treatment from these artificial divisions, because to say that a patient is melancholic does not imply that we should take special precautions against, say, suicidal attempts; he may be equally so whether in a state of "mania" or of "stupor," and the same applies to homicidal attempts. So uncertain are the course and development of these groups of symptoms that we cannot enclose them in a ring-fence and say, "Now we have a definite entity to deal with and there is no fear of this or that happening," and the proof is that very often the unexpected does happen, to the confusion of him who has been misled by the will-o'-the-wisp of mere appearances. It is just the old story of observing symptoms without the knowledge of the causes, a procedure certainly of use in its way by calling attention to the fact of some fault in the mechanism, but of no more use in the mending of the fault than is the mere observation of a runaway or retarded speed when the pace should be of a medium rate, except that it may lead the unwary to an interference of a nature quite unsuited to the structural requirements.

It must be acknowledged that there are in the

category of mental diseases one or two forms which seem to be of so defined a nature that it cannot but be held that the degeneration is of a particular kind and affects special parts. There are certain cases of which it may be said with tolerable certainty that general paralysis is present and that there is no hope of recovery. There are others where the delusions and hallucinations are of such a character that it may with almost absolute certainty be said that the insanity is of the "toxic" variety. It may happen that our diagnosis is wrong, but if so there has been most likely an undue prominence given to some sign or a neglect of some really important feature. Still the fact remains that we cannot deny the existence of definite groups of systems; and if so, inasmuch as these definite groups are found in different individuals, it must be granted that there exists a lesion of a kind similar in its seat and nature in different people. But here the likeness must not be strained too much, for the intensity and reality of individual symptoms may vary greatly in range: whilst one may present a constant "maniacal" set or tendency, another may have variations from time to time, and yet so far as we know, the disease is the same in all.

Take the element of "feeling," that quality to which so much importance is attached, but of the essence of which we are so ignorant. Feeling is defined as a "complex process made up of sensation and pleasantness or unpleasantness, in which the affective side, *i.e.*, the pleasantness or the unpleasantness, strikes us more forcibly than the sense side of it" (Titchener). But no one knows what makes the

pleasantness or the unpleasantness of a sensation beyond, perhaps, saying that it is a teleologic accompaniment of the sensation; and therefore to make a distinction between classes of symptoms according as an individual is in a condition of depression or of euphoria is raising a structure upon an unknown basis, and one which may in reality be non-essential. The affective sides of a sensation are said to be the conscious processes which are for the good or for the harm of the living body, so that there is a perpetual striving to maintain the one and to minimise the other. It is probable that the feeling-tone of the idea corresponds with the affective-tone of the sensation which preceded it, so that whether a person is euphoric or melancholic depends upon the class of ideas aroused. Now we do not know much about the connection between ideas and central nerve tissue, but we may surmise that there is an intimate relationship, and that it is of a certain kind, and if so, it must follow that an agent which sets up the manifestation of diseased symptoms may do so either in the direction of pain or pleasure according as it affects tissues which, for anything that we may know to the contrary, though different in expression are the same in structure. That one person, then, is melancholy and another elated does not of necessity show that different structures are involved in the two cases: it may be that not only is the cause the same but the part acted upon is the same too, and therefore the absurdity of worshipping symptoms is a misleading idolatry blinding us to the true essence of the process we are investigating.

When insanity assumes the stuporous form there may or may not be muscular complications which are of a temporary or of a more or less permanent character. When these are present in a noticeable degree the case is said to be one of "katatonia." But this is an accidental symptom; it may come on at any moment; it may even apparently be brought on by lifting the extremities; it may last some time (days) or it may be of very brief duration. When it affects the muscles about the nose and mouth it is called "schnautz-kramp"; when the extremities or the muscles about the Back are affected so that the patient may be made to assume the pose of a lay figure, it is said to be "catalepsy." As to the mental state there may or may not be consciousness present; in some instances the patient will tell you on his recovery that he remembers nothing of what occurred, in others we are not able to obtain any more information than that he has a dim recollection of being in some condition which he cannot describe, whilst it would seem that in yet others there is a vivid recollection. It is not unlikely that even where the patient is unable to give any information of his feelings or ideas there may still have been some form and degree of consciousness present, and that the mere fact of being unable to describe it does not mean that it was not there. The two states, that of return to sanity and of stupor, are so essentially different as to mean a dual existence in which what occurs in the one is absolutely a blank as to what occurs in the other when the question of memory or recognition is concerned.

There is a condition of melancholia called in the text-books "*melancholia attonita*," in which the external appearances are very like those in stupor. It is true that in *melancholia attonita* there is not seen the condition of "*flexibilitas cerea*" of the muscles which is so prominent in stupor, nor is there the salivation nor the spasmodic form of sudden utterance known as "*verbigeration*"; but these latter are not always seen in stupor, whilst in *melancholia attonita* there is to be found at times a resistive or tense muscular state which may be found in stupor.

The text-books say that the real difference between the two is that in *melancholia attonita* there is always an acute consciousness of what goes on, but I have already pointed out that this conscious condition may exist in states of stupor. Of what use is it to attempt to draw hard and fast lines between conditions where the symptoms are so interchangeable? It may be exceedingly difficult, if not impossible, to say whether a case of a certain kind is in the condition of *melancholia attonita* or of stupor, and as it is not of the least consequence either with regard to prognosis or treatment in which class we do eventually place it, what is the use of overloading the student with a lot of particulars and of goading him to a specialism which as far as we know is accidental and not characteristic of any fundamental difference?

If it is proposed to treat an insane person merely by his symptoms, then we can understand why the artificial distinctions and refinements of specialisation given in the text-books are of importance; but inasmuch as it is not always advisable or orthodox to

treat, of necessity, excitement by sedatives, or depression by stimulants, there can be no reason for embarrassing the student by insisting upon special descriptions of what are merely transmutable signs.

It is not my purpose here to describe the symptoms of insanity; this has been done in many existing text-books in a most complete manner, but I would suggest that in considering the case as it actually is before us at the moment, less pains should be taken to put it into a so-called "kind" of insanity than to recognise that it is an insanity and should be treated more in accordance with the ætiology and with what is known of the morbid anatomy than with the prominence of some of the symptoms.

In the life of the individual ideas are formed some of which have a strong emotional tone, others have only a moderate emotional side, and some are of so neutral a nature as to be practically free from emotion of any kind. On thinking of many ordinary acts which one does in the course of the day, there is no apparent emotional tone of gratification or irritation, nothing more than a neutral condition can be predicated; but there are many others which are agreeable or the reverse, and it does seem as if when the emotional side of an idea is once established it always accompanies the re-presentation of that idea. On one occasion we may undertake a journey in an absolutely neutral frame of mind, but on another a similar journey may be accompanied with strongly pronounced feelings of satisfaction or irritation. This is not because there is any change in the idea of taking the journey, but because other

associated ideas are present whose prominence outweighs all other considerations. The same idea cannot have different emotional tones; so when we have a hateful idea of a person whom once we loved, it is not that the emotional tone of the idea has changed, but that there has been the rise of another idea, associated perhaps with the first, but out-crushing it by its positive emotional tone.

What the nature of emotion or feeling is we do not know, and beyond the statement that pleasure and pain mean that they are the accompaniments of varying forms of metabolism there is no explanation at hand. It does, however, appear to be most in accordance with observation that when from any external or internal cause an idea arises, there is a pleasurable or a painful side to the idea aroused, and that this union is found in any subsequent re-presentation. It is common observation that by being accustomed to the idea, by its frequent repetition, one loses to some extent the acuteness of the emotional tone, but this is probably due to changes in the associated ideas. A person may have a dread of handling a certain reptile; but if he sees another individual handling it with impunity, and even with satisfaction, he becomes "used" to it, not because his original idea has been changed, but because other ideas with other emotional states have supplanted it. Naturally, then, emotional conditions of pleasurable excitement and painful depression occur in most forms of insanity where there are intellectual factors present, whilst numbers of instances are seen which display their symptoms in a placid, unimpassioned

manner because the emotional tinge of the idea is of a neutral tint. It is very doubtful if a true emotional or affective insanity can exist at all—that is, if there can be merely an excessive degree of feeling or emotion without an accompanying idea. Self-analysis shows that when one is depressed or pleasurable excited there is always an idea present belonging to the group expressed by the affective state, and it is difficult to see how an intellectual affective state can arise by itself; indeed, by the understood and accepted definitions of emotion the thing is impossible. Continued bodily pain may cause depression and sometimes lead to suicide; but this is because it arouses gloomy ideas of the future, ideas which are already there, but which were lying dormant until they were set in action. An enfeebled bodily condition causes depression because it arouses ideas of incapacity, of inability to perform one's usual duties, of final dissolution, and so on; whilst a bodily emotion of well-being, which is simply the feeling accompanying a healthy organisation, must suggest pleasurable ideas, ideas that all is well, that the dreadful is not about to happen, if it suggests ideas at all. A person is therefore sad or glad according to the presence in consciousness of the corresponding ideas. And though it is true that bodily conditions of well-being or the reverse do as a rule induce corresponding intellectual states, it does not of necessity follow that this is so; the man who feels well bodily may be miserable mentally because by his sympathy with others he regrets that there is so much pain and suffering abroad, and the man who is feeling ill

and suffering from an incurable disease may be mentally happy because he knows that he might be worse and that his family is provided for. It is all a question of the association of ideas and of their revival with their accompanying emotional tones.

That a person is in a melancholy or a joyous frame of mind depends, then, upon the class of ideas which is dominant, and it is not the external conditions of bodily or muscular accompaniment which determine the ideas and the emotional tone, but it is the reverse which occurs. Is it to be supposed that in the central nervous system there are tracts of material which having once been "impressed" in a particular manner go on acting in the same way when some process occurs to call them again into action? It would seem so, for nothing appears to be more certain than that ideas of one kind or another are lying dormant merely, but that they can be aroused, voluntarily or involuntarily, and re-asserted in precisely the same form, and with the same form of emotional tone as they first had, whenever anything, central or peripheral, occurs to stimulate them. It seems impossible to dismiss the hypothesis that whenever the mechanism of ideas (be it what it may) is started it will always, when functioning, act in the same way, and however difficult it is to think of smouldering remnants of previous impressions waiting to be again blown into action, the explanation cannot be disregarded. This is quite consonant with the doctrine of inhibition. We often meet with instances of people pursuing lines of conduct (*i. e.* acting in obedience to ideas) very different from what they

did, and these people are apparently unconscious of tendencies or ideas prompting them to act differently ; but if anything occurs to injure or destroy the last formed processes, which are the inhibitory ones, they then assert and act upon the old ideas and formulæ, which had been suppressed and smothered out of consciousness, but not destroyed, only held in check. For instance, a man who is much given to drinking forms the resolution to be a teetotaler. He succeeds in carrying out his new idea, becomes absorbed in it, and never thinks of his former habits, the ideas and feelings appertaining to them being for the time inhibited by the new ones ; but the unfortunate moment comes when irresistible temptation is set before him and he succumbs to it, then away go the inhibitive resolutions, the old ideas are re-stimulated and he returns to his former self.

Another illustration may be drawn from insane conditions. Under ordinary circumstances people are of this or of that temperament. They are either disposed to take the gloomy or the sunny side of things ; and the interpretation of this appears to be that the trend of association of ideas is such that the serious side of life is to the morose man the dominant path which his ideas with their emotional tone take ; they are always before him, and they inhibit the rest, but it by no means follows that ideas of the opposite kind are non-existent ; they are there, but are always kept in check and assume no prominence. Something occurs to bring into action associations of ideas with pleasant emotional tone, and this is brought about either by altered companionship and social relations

or by disease, with the result that the trend of melancholy associations is now inhibited by the strength of the new conditions and will remain in the background as long as the new conditions last.

When, owing to causes which may or may not be known, what is called "insanity" occurs there is generally a change in the emotional tone, but this is invariably found to be accompanied by corresponding ideas: either the patient is effusive, liberal, and overjoyous, or he is the reverse; and whether he is the one or the other depends upon which tracts of material structure are affected. It is not true that persons becoming insane are invariably melancholic in the earlier stages. They may in the beginning show excitement with corresponding ideas which are the reverse of melancholy, or the cause may be so intense as to repress altogether any manifestation of ideas and emotional tone and precipitate all higher nerve demonstration into a state of chaos. Even in the midst of an insanity where the prevailing symptoms are of a depressed or of a joyous nature it is by no means unusual to find rapid alternations of the kind of symptom according as tracts of association are blocked or fresh ones excited by the morbid conditions existing.

The question may be asked, Why does a katabolic condition of nutrition set up the feeling of misery, depression, and discontent? What is the nature of the internal mental satisfaction that follows the success of our enterprise, or of the disgust and depression which accompany a failure? The true nature of these accompaniments of sensation and idea

seems to be impossible of comprehension ; at least, no satisfactory explanation of the essence of feeling has hitherto been given. All that is known is that there are different kinds of feeling and emotion, and that they appear in varying degrees and intensities at different times and under conditions that are full of change. It is even doubtful if ideas of power and wealth are in all cases accompanied by the emotions of euphoria, just as it is if ideas of poverty, of impending destruction, or even of actual suffering are invariably accompanied by the usual emotion. There may be seen in any asylum patients who go about asserting that they are being persecuted and are going to be hanged, yet they exhibit no emotion of fear or dread, indeed they may be quite cheerful ; and there are patients who are under the false idea that they are emperors or millionaires, yet show none of the tone that should accompany such greatness ; on the contrary, they will wheel trucks and holystone floors without any sense of incongruity and without any display of emotion of any kind, just as if their ideas are merely ideas without any affective accompaniment of any kind. I allow, on the other hand, that there are plenty of instances where the emotional tone of the idea is greatly exaggerated, the display of feeling much in excess of what it would be in ordinary circumstances. Can it be that feeling and emotion are in themselves actual conditions, actual *propria* of nerve structure, usually seen in conjunction with sensation and ideation, but not actually dependent on them for existence ?

Even in the mere bodily conditions of good and

bad nutrition the feelings of pleasure and pain are not always present. It cannot be predicated of people who are apparently in the best of bodily health that they are happy, nor of a lean Cassius that he is sad and in despair. The general idea that it is best to approach a man after a good dinner if it is desired to obtain a favour from him is no doubt correct in the main, but it is not invariable, and many wrong estimates of character have been made by assuming that nerve characteristics and bodily appearances go together.

In sleep and dreams the separation between idea and emotion is at times very manifest. In dreaming people may fancy themselves in what would, if real, be most painful and distressing conditions, but it is common experience that the emotions of fear and dread may be entirely absent, and yet the ideas or images of the actual conditions may be most exact and apparently real. There is here as true a separation of emotion and idea as there is of the idea of moving and actual motion. Another thing is also probable—that the connection between idea and emotion is much stronger, more intense, in some people than in others, though it is, of course, impossible to prove that a present idea which is common to two people is equally strong in them. But supposing that it is, and that there is no greater association of other ideas of results and consequences in the one person than in the other, we may yet see in him an emotional disturbance far more intense.

It is within ordinary observation that in the sane, just as in the insane, polar changes in the kind of

emotional tone are frequent. These are generally, if not altogether, due to changes in the ideas. A parent finds that his child, to whom he is particularly attached, contracts an engagement of which he strongly disapproves, or changes the religious sect, or otherwise displeases him. Though there may be ground for displeasure in this conduct, there is no apparent justification for the complete change from love to positive dislike and refusal of further parental relationship. Yet such cases are not uncommon.

In the same way it unfortunately happens that a complete change may occur in the affection of one party of a married couple for the other, for no apparent reason. In all these cases it would seem that what really happens is that something occurs which sets up new ideas with a strong emotional tone; and as these form new associations of the same trend, so the whole new system, being reinforced, makes up a content of a positive idea and emotional tone of a very compelling nature.

The usual statement that feeling and emotion are always bound up with something does not appear to be justified by fact; that they usually are so joined is true, as it is also that if not essentially associated with sensation and idea they do rapidly become so; but of real independence of the two conditions there does yet seem to be some ground, though even if such be the case it is as yet inscrutable to us how changes of emotion come about. What is certain is that the unreasoning and unreasonable changes which often take place in the sentiments and emotions are the cause of much of the trouble and misery which

are found among the victims of these badly understood oscillations.

The study of delusions runs naturally upon the same lines as that above indicated. The generally formulated theory with regard to delusions is that they are the result of the action of structures whose inhibitors have been cut off or disarranged by disease ; that therefore it is the untouched, the sound tissue, which is functioning, and that the association or inhibitory influences of the parts which are diseased being cut off and out of action, we can in this way account for the extravagance and the incoherence so frequently met with. It is practically very difficult to understand the existence of delusions on this theory, and, moreover, the explanation is subtle and insufficient. When a certain portion of brain tissue is affected, why does it cease to act, to become, as it is termed, "negative," and thus leave all functioning to the "positive" or uninjured element ?

The analogy from disease in other organs would land us in very different conclusions ; for in any diseased organ there are mixtures of two classes of symptoms—those due to the tissue affected, and those of the still sound part—and there is every reason to think that the same conditions hold in mental affections. The very opposite conclusion to the one usually held appears to be the correct one, viz. that it is the "negative" or diseased structures which are functioning excessively, and that these really overpower the demonstration of the "positive" or unaffected parts. The most insane person met with does not always "talk insanity" ; there are nearly always

manifestations of irritated and of normal structure, though it is not always easy to unravel the mixture. If it is true that, to put it coarsely, lines of ideas or tracts exist, that in normal conditions they lie latent until aroused into action by some stimulus or association link, then it is reasonable to conclude that if these material tracts are constantly irritated or stimulated by the disease, whether of an inflammatory or any other nature, they will continue to function as long as the new condition lasts, *i. e.* as long as the stimulus remains; and the symptoms of delusions and incoherence are thus accounted for, because all the tissues within the area of the affected part are liable to be set into inco-ordinated action, and hence new associations and a new personality arise. Of course the ideas or delusions have their own emotional tones, and the patient is depressed or euphoric according to the nature of the ideas which are set in action.

If we knew more about the paths of association and of the nature of ideas than we do, it might be possible to understand the why and wherefore of delusions, to name accurately the parts affected, and to trace the course of the disease; but in our present state of ignorance as to the real mode of action of the highest centres we cannot go beyond the range of hypothesis. It is important, one would think, to determine the actual tissue involved in the expression of delusions, and the only inference that a consideration of the symptoms leads to is, that whilst in the insane state there may be some indications of normal action of the brain, the great preponderance of functioning is irregular, and is due to the irritation

of structures which are under the influence of continued stimulus. Take the case of a person who is reduced to a state of mono-ideism, or, at least, to that contracted mental condition when he can only think of one thing or of a limited group of ideas. The man is depressed, or over-joyous, or perhaps in a neutral emotional tone according to the nature of the idea; but, do what he will, he cannot get rid of it, nor can anything be done to relieve him from the overwhelming insistence of the matter which is "on his mind." Nothing is of any use until something occurs to change the nature of the obsession. Then, in a moment, with the new set of ideas and their associations, if they are strong enough, the tension is relieved, and the old ideas and feelings fade, and the normal state is resumed. Here it is the constant presence of a certain condition of externals which is the cause of the narrow group of ideas issuing in an incessant functioning, which may go on to actual disease of the tissue which is the medium concerned with the line of thought, and as long as the external or internal conditions last, so long will the individual be unable to free himself of the incubus which oppresses him. It cannot but be that the tract of the material substratum of ideas is the one here involved, and the parallel between a case of this kind and one of insanity with delusions is exact: both are caused by the continuous presence of a stimulus: both are made to function as long as this stimulus lasts, and both resume their ordinary course of action when relief is experienced—*i. e.* when the stimulus is taken away.

The study of hallucinations tends to confirm in a striking manner the above remarks upon delusions. Under ordinary circumstances it is necessary for the continuance of a sense perception that the stimulus must keep on acting. When the church bells stop ringing we cease to hear them. When the skin is pricked with a pin it must be re-pricked for the sensation to recur. According to the theory of local signs which best explains these conscious processes, there is a direct connection between the external part stimulated and the central sensation centres which are well-known and located. In normal conditions the fact that there has been an impress is not appreciated; it does not exist in the present consciousness, but that there has been some change, some essential mode of a new condition of the physical basis, is made certain by the recognition of the perception of the stimulus when it recurs.

When anything occurs to stimulate the central sense organs, be it coarse disease or altered conditions of nutrition, or the presence of a toxæmia, a continuous stimulus is to hand, and the result is shown in the rise of hallucinations or sense perception in the absence of true external stimulus.

The theory of eccentric projection accounts for the hearing of voices and the sight of objects at the distances where they were first appreciated when the original stimuli occurred, and it holds as good for central as for external origins of stimuli. As long as the central conditions that cause these external projections last, so long will the hallucinations

remain, and nothing but the subsidence of the new central conditions will stop them.

Of what use is it to argue with the patient that he does not really hear the voices or see the visions because there is nothing patent to cause them? He must see or hear them until the physical condition is changed. Of course, the actual hallucination does not long remain pure: it speedily passes on to a delusion, with all its train of associations. I have already indicated* how important it is from the point of view of treatment to endeavour to trace delusional conditions to primary trouble in the sensory senses; and though the subject of delusions is more complicated than is that of hallucinations, it does seem as if the two conditions are susceptible of explanation on the same groundwork.

It may be that in time we shall be able to crystallize definite forms of insanity, to show that distinct tracts of association and projection-fibres are always affected in the same way under similar ætiological conditions, as appears to be already highly probable in general paralysis. Even now we may fairly safely forecast that relapses will occur in puerperal and adolescent insanity, that toxic insanities are usually associated with delusions of a similar type. On the other hand, insanity due to alcoholism may exactly simulate general paralysis, and unless we are wary may lead to a wrong prognosis.

Analogy teaches us that we have the right to expect that as particular agencies set up appearances,

* 'Surgical Treatment of Delusional Insanity, mainly based upon its Physiological Study.'

cause symptoms, and affect tissues always in the same manner, a like process must hold in the production of insanity. We know already that in some forms of "nervous disease" we have the right of saying exactly what tissues are affected and of forecasting the course and the final development of the symptoms. Can the same be said of insanity? Unfortunately not. The fallibility of prognosis shows this. It does not matter how old or how young the patient may be, how acute or how desperate the symptoms may appear, we form our prognosis on past experiences of conditions as nearly similar as we can ascertain; and yet recovery ensues where it has been said that there is no hope of it, or the disordered condition goes on when we expected convalescence within a certain time.

In reviewing any case of insanity which is before us, the great fact must be kept prominent that the presence of maniacal, depressed, or stuporous symptoms means nothing as regards the ætiology, the prognosis, or the treatment of the patient. One or other group of symptoms simply points out that there is an insane state to be dealt with; and though it may be convenient to use such descriptive terms as mania, melancholia, or stupor for momentary definition, nothing more should be intended, because we know nothing of the exact conditions which are only compatible with one or the other dominant characteristics.

CHAPTER V

INCOHERENCE

To be coherent is to follow up a train of ideas to an end by the medium of association, in such a way that the sequence can be traced when the intermediate steps are pointed out. It is not necessary for true coherence that the final result shall be of the same kind as the initiatory process, nor that the steps of the process should be obvious before they are pointed out, but it is essential that the links of the chain of thought shall be in sequence, capable of demonstration and repetition, and in accord with the laws of contiguity and similarity.

When a man is making a speech he must keep prominently before himself the end at which he wishes to arrive and the intermediate processes which lead to it, and if he forgets these, if he "loses the thread of his discourse," he either breaks down altogether and cannot go on, or else he becomes incoherent and unintelligible. It often happens that through nervousness, want of practice, or passive attention to a particular step at which one may have arrived in the course of an argument, the conclusion which a speaker should carefully focus is forgotten, and he finds him-

self talking very far from the subject he set out to arrive at, or else he makes attempts to retrace his steps in the hope of hitting upon the continuity of the chain which leads to the goal of the labyrinth; in the former case he is not of necessity incoherent, though the conclusion he arrives at is different from the one he intended; in the latter case he may be successful in his efforts, or he may fail altogether, or he may become incoherent.

So many sayings and doings of ordinary life are habitual, the parts concerned in their mechanism are so well worn, that in answering questions or propounding arguments, the conclusion and the connecting processes of the ideas and acts arise together and we are unconscious, or barely conscious, of the trains of connection, if indeed in a very familiar process we do not jump the intermediate steps and concern ourselves alone with the conclusion; but when placed in new conditions we may easily fail either in rapidly arriving at our wished-for conclusion with a clear perception of the paths which have led to it, or we may choose some terminal of an isolated and impossible relationship and find ourselves stranded in endeavouring to find a clue which will form a satisfied coherence.

Public speakers vary in fluency and in debating power. There are some who (probably from experience in the particular trend of the subject) can seize the important points of a new matter and rapidly develop the paths which lead to their criticism. This is true debating power, and it is a comparatively rare original quality, though it may no doubt be

acquired by training and practice. There are others who are coherent and satisfying only when they have had time to prepare their conclusions and the paths that traverse the argument. With these it is customary to have certain stadia on the journey to the final conclusion, and to work through these halting-points by paths which they severely map out; and if these *points de repère* fail them, they are very apt to miss their objective and to break down or become incoherent.

I know one prominent public speaker who divides his subject-matter into intervals corresponding with the lengths of a fishing-rod, each length associated with a particular idea, after the development of which he passes on to the next; and probably most speakers have artificial aids of their own through which they maintain the continuity of the chain of coherence.

Consciousness is not a necessity for all forms of coherence, if by consciousness we mean the knowledge of what we wish to do and the means of doing it. In impulsive conditions the process itself generally precedes and causes the consciousness. "What have I said?" or "What have I done?" is the sign of the consciousness which has been aroused by a saying or an act which was quite coherent but not intended, which caused but did not result from active consciousness.

To recall or to re-act the life of an ordinary and coherent day is impossible because most of the time has been spent in the routine sayings and doings which are scarcely attended with consciousness; a cinematographic and phonographic repetition of the

life of an ordinary day would to most persons be a revelation, and would show how often consciousness, if present at all, has been so only in the most subliminal degree; indeed the recorded facts would often be denied. Coherence in the form in which it is usually understood is, then, a conative process; there is attention involved, and when this fails, either confusion results or an inept conclusion is arrived at. The man who gets up to speak and is overawed by the position in which he finds himself either finds he is being involuntarily drawn into channels which lead him to incoherence as regards the end he set out to obtain, or he becomes overwhelmed with subject-consciousness, fails to get hold of the line which is the one out of the many paths of association presenting themselves which he ought to follow, and sits down in confusion because he allowed the objectivity of the situation to overcome his active attention.

So strong is the influence of association that it is a very difficult thing for a sane person to be incoherent, to give out ideas which, as it were, start from independent, disconnected centres. It can best be done by suddenly directing the attention upon some other object and allowing the various associations to crowd on; but then the process becomes immediately one of coherence; and if instead of using some objective as the *point de repère* for starting a new system, we endeavour suddenly to get hold of a set of ideas which has no connection with the present one, the difficulty is almost unsurmountable.

In some forms of insanity there seems to be no doubt about the absolute incoherence of the patient.

By no means in our power can we trace any communication or association between the jerked out expressions : it is indeed most likely that here we are face to face with true irregularity. For, active attention and conation being impaired, the subject is at the mercy of explosions of nervous energy from centres inchoate and separate, and the degree of incoherence is proportionate to the activity of the disturbing agent.

So mechanical is the condition we are now discussing that the words seem almost to precede the ideas of which they are the expression, and consciousness, if it exists at all, is only consequent upon the completion of the process : it certainly does not precede it, as it should do in ordinary deliberate thought. As, then, attention, conation, and representation are impaired, so must be the memory or power of recognition of what has been said, and therefore we find in true incoherence an inability to re-live the processes that have been gone through. It is the most incoherent insanities that are the most blessed for the patient; the more violent, the more spasmodic and disconnected the phenomena, the less he remembers of them.

I once had a letter from a patient who wrote it when in a maniacal condition. It is truly a mixed specimen, in that whilst there is manifest incoherence in the way in which separate presentations occur, there is yet a short following-out of the connections of an idea once started, soon, however, to be diverted into an entirely different direction. I do not think it possible for a sane person to have written such a letter in the short time occupied in doing this—if

indeed, he could do it at all. The letter shows, moreover, the power of mere sound associations in the rhyme and rhythm of certain words and sentences—

“MY DEAR MARY,—Cake and tea. Just a few lines from Jem saying I shall not be home to-night. I have met with a slight accident on the railway, sprained my ankle cutting back teeth, and lost my gloves 3s. 6d. a pair with buttons got into trouble with the gas and lost my bible gone to church with the Reid [the chaplain] and pews. dear Mary don't forget me don't do Mrs. Williams must be keeping nicely this fine weather and baby gone to school and how is Aunt must [be] anxious about me John my dear John wait for me don't turn your head with train oil with with my last new boots for I love Alfred dear Alfred so noble and true white with with the coffin and reid with disdain
O Love how is Aunt is Ann
I'm sure she must be pale I met her yesterday afternoon
with the end of the Towel rail and little Mary's face
and little Mary's fan
And Archibald pan
With Jon and Tom and francis paper
and John taper
and William my William the pride of my Heart with the frying pan
My Mrs Reid
My mistress Beid must be the same
with the bars and walking cane

with the sponge

John my Don you must not shun the haunts of men Tell
your Ma you have got a Pa

a muffin man

a gentil man

with no pin can

a milkman

“your affectionate JANE and MARY

“from J—— A——.”

One is led to doubt if the insane always mean what they say, *i.e.* if the expressions used do always represent the ideas. People will go on thinking for a long time without speaking, though there is always a tendency for ideas to develop downwards into speech; and if the words or formulæ be examined, they will be found to correspond as a rule with the usual forms of expression. But the insane often give what are apparently the wrong answers to questions; they seem to understand that something has been said to them, but the answer is quite irrelevant, as if the channel through which the answer should come were blocked and the force evoked by the stimulus of the question directed into another channel; and though the patient may have wished to give the proper reply he really says something quite different from what he means. Just as in some forms of aphasia, where in reply to a question a patient will utter a word or a sentence which has no meaning, and it would appear that the projection is on the wrong track, and the patient on hearing what he says recognises it as being wrong and not what

he intended, so does it seem that the insane person will use the wrong track and his incoherence will only be a verbal one. It is not an uncommon thing for persons who are in a somnolent, dozing condition to reply to questions addressed to them in words which have no immediate connection with the subject, and it is not always possible to connect these random phrases with transient ideas of the moment ; far more likely is it that some part of the question which in its entirety was not comprehended acted as a stimulus to some well-worn track of association and exploded it in the irregular manner indicated.

The poet or the genius who suddenly flashes upon us an abstraction or a simile which at first sight has no apparent connection with the original presentation has arrived at his result by a very rapid action of one of the laws of association, viz., the law of similarity, and he may not be all at once able to trace the intermediate steps ; but analysis of the process makes it certain that he did rapidly seize upon certain common features in what he was looking at or thinking about, and that these led up to the result in a way which once explained could be easily traversed again and seen to be really a very coherent process.

In the same way the lunatic's rhymes and the puns of the humorist are instances of the working of a law of similarity, but the coherence is merely a sensory similarity and the connection is immediate and simple.

On reading the accounts of the ravings of people of foreign tongues one must be struck with the similarity of the delusions and the modes of expression and

construction to those met with in our cases; and though this is probably due to the common roots from which these languages have sprung, yet there would seem to be more in it than this. I have never read verbatim accounts of the mad ravings of savages, of Hindus, of the speakers of Gujerati or Telugu, but I should conclude that one familiar with these languages or dialects would be able to estimate their peculiarities, incoherences, and inconsistencies as based upon the same constructive lines as in our own cases; and from the fact that it is possible to construct words and sentences in our own language, and by rendering them literally in a foreign language to have them understood, I can only conclude that the general processes of thought and of language-construction are the same universally. That the external world is differently perceived by different people, that things are differently named, is merely a matter of education; the laws of their inter-association are the same.

Inductive thinking, the proceeding from particulars to generals, is the mode of the child and of the person with limited experience, and it is only when accomplished by training that people argue deductively; hence we should expect the incoherence of young and uneducated people to be more pronounced than it is among the older and better trained, and this I believe to be the case. The channelled paths in the brain of the educated adult are more numerous and orderly than in that of the young and less practised, and it seems to the observer that the connection between the ideas of the insane

person of previous good education is much more distinctly traceable than is the incoherent delirium of the child or the savage.

Professor William James, to illustrate his original views upon the subject of memory, quotes the case of actors who, from having to read and learn so many different parts, become what are called "good studies," their channels of association being unusually numerous. I have had under my care many persons connected with the stage, and I have often noticed how, though incoherent, one had to remark long trains of connected speech before the break came which seemed to punctuate the change into a fresh group of ideas. I call to mind two instances of maniacal excitement of periodic character in an actor and an actress, brilliant ornaments of their profession; and whilst in each there could be noticed distinct breaks in the chain of ideas, yet the intervals between these were so rare, owing to abundance of trained associations which led to long and sustained flights of declamation, that the fact of incoherence was apt to pass without notice.

It is generally held that the true test of coherence is the power to go over again the ground that has been traversed. In many instances this may be true, but it is not necessarily so. Many people will produce perfectly coherent results, but they may fail even to recognise them afterwards as their own productions until re-perusal and attention have brought back the various links through which the study was elaborated.

It is a familiar thing to those who supply copy

for the Press that an editor will sometimes return the document with a note that he wishes the article to be expanded or carried out on different lines. To do this is exceedingly difficult, and indeed often ends in failure; for it is by no means easy to re-assume the exact conditions under which the first production was effected, and even if this is done it is found that the laws of association are so strong that it is next to impossible to get away from the original trend of argument and conclusion; and so it often results that a maimed and mutilated product, artificial and disjointed in its new associations, takes the place of the rejected but coherent manuscript. *ὁ γέγραφα, γέγραφα* is as true now as when first uttered, and second thoughts are not always best unless the body of the subject is so changed that fresh associations must accompany it. After all it may be said that there must be some end to the association of ideas; for it is not possible to suppose that inter-communication is so general that a series once started is interminable. And yet it would seem that this latter proposition is in reality the only one tenable; for it is quite easy to see that by following out suggestions as they arise, the studied coherence may be prolonged indefinitely. But the process would be a deliberate one, and would be in reverse order from what usually occurs; for we have already endeavoured to show that in our actions and thoughts we first hold clearly the result we wish to attain and gradually work up to it, whereas in the other process of weaving a chain the end arrived at is often quite unlooked for and is surprising when attained.

Dreaming is to a great extent a tissue of incoherencies, because, though images are around and may be coherently connected to a limited degree with others, the process is not capable of indefinite prolongation, but is interrupted by the rise into (dream) consciousness of other distinct images, which in their turn issue in very different channels, resembling the true incoherence of the lunatic and to be explained in the same way.

If progress is to be made, we must have a determinate end, though it sometimes happens (especially in science) that we are suddenly brought up in presence of a new fact for the explanation of which we have to work back until we find the steps which lead us to it. These accidental presentations are of the greatest use to society ; they are the inventions of the age, and they probably occur much oftener than is supposed, but falling upon the barren soil of the insufficiently trained or of the unimaginative, they are neglected, and what was a discovery remains a useless and unremunerative unit.

The work of a really insane man who is suffering from an acute attack is, then, valueless ; he is working the wrong way. Like him who, allowing things to go on, is always waiting for something to turn up, there is no objective in his life, and his very coherence may be the sign of his lack of purpose. To do something requires attention, and this is what the insane man cannot give ; he revels in familiar associations which cost no energy ; and, therefore, though his ideation may be excessive, it causes no exhaustion, nay, it may even be attended with the

relief that we all feel when our thoughts run on in familiar groupings unfettered by the strain of having to compass certain ends.

The satisfaction of home-life, the pleasure of reading the literature of one's own tendency, the liking for pursuing a routine of habit, the difficulty of breaking through the rhythm of existence, are examples of the paralysing repose of association and coherence, conditions which, though they may promote the luxury of the individual, do not tend to the work of progress.

An apparent incoherence may be a deep-seated coherence at times worth following up, at others valueless. I have known a judge on the bench seize upon what seemed to be the chance statement of a witness and spend much time in sifting (*i. e.* in working up the chain of association that leads to) it, only to find that it was a time-wasted unravelling; on the other hand, I had a patient—a case of delusional insanity—who, starting with the idea of providing a fund for setting up discharged patients with money on returning to active life, finally, after throwing away several schemes, hit upon the device of building a high tower in the grounds from which visitors to the asylum might view the surrounding country. In this tower were to be interpreters to explain the features of the scheme to the many foreigners whom it was expected to attract, lifts and refreshment-rooms to accommodate them, whilst at certain parts of the structure were to be placed statues of the Apostles and a large lantern light at the summit.

The idea of this patient was probably a suggestion

of the tower of Babel, and the elaborately drawn up plan was received more with amused derision than approval; but the idea was afterwards an accomplished fact in the construction and equipment of the Eiffel Tower, showing that what was thought at the time to be a "wild and mad notion" was in reality a very coherent and practical suggestion. The patient never ceased from complaining that by his forced detention he had been prevented from making a fortune, and was very desirous of getting damages for what he said was the embezzlement of his idea.

Incoherence may be the local sign of the lunatic, but it may also be that of the genius, who, however, if he takes the trouble, can prove that the term is wrongly applied; but recognised coherence is generally the passport of a mediocre respectability.

CHAPTER VI

EVOLUTION AND DISSOLUTION

THE only true way to regard insanity is that it is a dissolution, or a devolution, either from what was the highest state of the individual, or from what we take to be the average type of his social scale. The changes are not only mental, but include bodily degradations, the latter at times more prominently affected than at others. It is as well to have a clear idea of what is meant by evolution, both on the bodily and on the mental side, and afterwards to state the position of insanity as a reversal of the process. Evolution means more than development as usually interpreted. We talk of development of muscle, of energy, of moral control, etc., when very often we only mean growth. Professor Huxley defines evolution as a process in which "there is no break of continuity . . . the whole may be compared to that wonderful process of development in virtue of which there arises out of a semi-fluid egg the complicated organisation of one of the higher animals." So that whilst in evolution there must be no break of continuity, the ultimate result may be of a nature quite unlike the original structure, displaying of course functions of the new series. In

development as usually understood there is no question of continuity nor of any new function : there is simply a greater potentiality in a direction already indicated. According to Dr. Hughlings Jackson the criteria of an evolution are (1) passage from the most to the least organised ; (2) passage from the most simple to the most complex ; (3) passage from the most automatic to the most voluntary. But in all definitions the important thing to remember is that continuity can always be traced. If this progress through continuity be allowed, it is difficult not to conceive that in course of time some higher type, both in mental and bodily structure and function, will be attained, and also that there must be a degeneration in structures that are not wanted, or have been altered in their conditions of existence. What is, then, to be accepted as a sign of a higher type, of an evolution ? A modification of organic structure which enables it to have greater endurance, greater capacity for resisting fatigue, more power over subordinates, may mean simply greater development in the ordinary sense, *i. e.* in size or growth ; but the possession of a new power to resist disease, an immunity from reduction to a lower state, an acquisition of processes which introduce new phenomena which are of service to the individual or to his environment, seems to satisfy the condition of a higher type, as also does the retrogression of items which are not only in the way of obstruction but may cause complications of necessary structures, by diversions from progress of which they are still capable.

In biology, development is the same thing as

evolution. According to Huxley, development is a "process of differentiation by which the primitively similar parts of the living body become more and more unlike one another." We have no proof that the anatomical and physiological conditions of parts of the organism of to-day are any different from what they were (in essentials) in the earliest periods of history. There are, perhaps, modifications in the perfection of nutrition in some organs according to the circumstances in which they are employed—*e. g.* in the soundness of the teeth, in the growth of hair—but there is no change in the type. The viscera are the same in shape, size, and structure as they have always been; the muscles are the same in number, structure, and size as they have always been; the bones have not changed; in nothing can we say that there is a higher type now than there has been, and indeed we have some difficulty in imagining what a higher type would be. If length of life and resistance to disease are to be taken as evidences of development, we are in some respects worse off and in others better than our ancestors. The span of life is shorter than it was ages ago, and there is no doubt that nervous and bodily breakdowns exist to a greater extent than formerly. On the other hand, there are diseases to which we are now immune, and it is probable that more progress will be made in this direction; but it has not been shown that unless the body is artificially protected, it possesses any immunity, and there is no evidence that it is able to transmit it. It cannot be argued that the internal organs as we possess them are necessary and incap-

able of further development; for we may do very well without an appendix and without several feet of intestine, and perhaps without other things, but what the modifications of the internal economy might become, and yet be consistent with life and progress, we have no notion of at all.

Nor does it appear that we can say much more of the mental processes. In an analysis of these we can name no new component at the present day. As far as is known, sensation, feeling, conation, etc., are the same in kind as ever; no new "faculty" is even hinted at. More may be known of the possibilities of which structures are capable. We have learned to do things that formerly were not thought of, but these can be traced to the use of the self-same structures in the same degree of organisation, and it is not possible to lay a finger upon a tissue and say, "Here is what has been evolved out of an earlier condition. We can trace the steps of its rise; it is a something which is higher in kind than anything that has been before experienced."

Does our mental side point to an evolution in that it is of a higher kind as regards the formation of abstract ideas, of sentiments, of a process which is of such a nature as to be inconceivable by any except those who have arrived at this higher state? It does not appear so. No man has yet been found who can bowl between the wickets so fast that a wicket-keeper cannot be found to "take" adequately. There is no nexus of ideas, no abstraction which cannot be followed when the intermediate steps of the process have been explained.

We are as far off as ever from understanding how the connection between mind and matter is anything more than a parallelism, from re-animating a dead structure, from imagining how the thoughts of another can be more than surmised, from believing in a spiritual abstract capable of knowing the contents, not of one mind, but of thousands. We look upon the mistakes of our ancestors in their interpretation of phenomena, not as signs of a lower intellect (though each age is perhaps a "barbarism" compared with the next), but as incomplete processes which are on the way towards what we acknowledge as the knowable, the limit of which we cannot conceive as existing, but even in its highest developments still traceable, in a manner to be understood, to the early stages of its being.

It is, then, difficult to say what is to be accepted as the sign of an evolution. A modification of its organic structure which would enable it to endure greater fatigue, to be less liable to disease, to have increased power directly or through agents over other organisms, to acquire or to drop parts which add to or detract from the efficacy of the system, might possibly be held to denote a higher type, but there is no proof that in many of these particulars we are any better than our forbears.

The dissolution of the mental processes does not appear to have changed in kind, any more than has the development of it. It may, perhaps, here and there present greater complexity in its composition, but it is just as easy to unravel. The insanity of the peer is not essentially different from that of the

pauper, nor that of the genius from the dullard. There are no grounds for believing that any new type of insanity has developed. People seem to be insane to the same degree and in the same way as they were, and it is just as difficult to imagine a new insanity as it is to picture a new faculty. We may imagine the deepest depths of a dissolution, or a higher order than what we now recognise as our highest, but the result of our imagination will still be an explicable one, to be understood and performed again by others, having in it no new creation, but traceable to a rearrangement or expansion of such capabilities as exist.

The tendency to fall away from the ideal—to relapse into well-worn channels—is so great that fatigue soon ensues upon effort. What greater contrast can be found than between the low-caste squatting on the ground and the stiff uprightness of the Court official on duty? Yet the various steps may be traced in the social necessities of the grades from independence to responsibility in the presence of the ideal; and the reverse of the process in the guarded formality between strangers, thrown off as acquaintance ripens, until, when familiarity is reached, all sign of deference is lost and the easiest postures are assumed, either in the loll of the arm-chair or in the squat on the level of the hearth-rug.

The question is sometimes raised as to what is the highest type of mind. The question is very difficult to answer. The idea of a God is but a human idea, and therefore is merely an individual notion of a highest possible expansion or development. Our

greatest poet says that "earthly power doth then show likest God's when mercy seasons justice"; but this must be an imperfect notion, because "justice" is an arbitrary term, and we have no knowledge that it is ever qualified by "mercy." Perhaps the abstract mathematician's is the rarest development of mind met with; it certainly does present more difficulties and presentations of conclusions which hitherto seemed beyond range than anything else, unless, perhaps, the latest developments of physical science; but all these difficulties are, when explained, as readily to be followed as the tricks of a conjurer. The highest code of ethics has been found in people whom we view as barbarians; but, then, it may not be acknowledged that morality and ethics represent more than one side of a highest type, and it is, in fact, not possible to regard, except in a very restricted sense, any type with which we are acquainted as the "highest," because rareness of occurrence does not of necessity mean super-excellence, and quite a common and general quality might, under certain conditions, be the *deus ex machinâ* of the psychological moment. A good practical sailor would in a storm be of more importance than the most profound mathematician or the most acute dialectician.

On reviewing mental processes we are struck with the fact that the tendency of advanced theologians of to-day is towards the explanation of the psychical by the physical, and that, according to the advanced thinkers in physical science, we are on the eve of discoveries in the "psychical" world which will

correlate it with what are recognised as material laws. Up to quite recently the mysteries of a "spiritual" world were so absolutely incomprehensible that they were handed over to the somewhat contemptuously regarded Society for Psychical Research, which simply recorded a number of phenomena without attempting to explain them; but there is reason to believe that the territory of the "supernatural" and the "spiritual" has been successfully invaded, and that the land of mysticism will be found subject to the same laws as the commonplace material world; indeed, it must be so subject.

Let anyone read the interpretation of the Day of Pentecost as given in the 'Risen Master' by the late Henry Latham, of Trinity Hall; he will then see the close resemblance between the explanation by suggestion in the view of the modern thinker and the pictorial representation by the ancient masters of the little fiery tongues seated upon the heads of the Apostles.

It must be true that the germs of a more advanced development than has yet been attained do exist in the nervous system, and we may have yet to witness some result which at first sight has no more connection with our present knowledge than has the electric light with the crackling of a piece of amber; but whenever such a development does come about, the steps of it will be traceable in a distinct chain, and the only wonder will be that there has been so long a delay in its advent. Such a belief is comforting. It would indeed be hopeless if we did not recognise the force of the argument of continuity, if we did not know that the secret is

there and that the key is to be found by methods, slow perhaps, and even imperfect in their mechanism and associations, but assuredly built in links whose welcome clang when heard tells us that the old harmony still reigns and that we are not landed in an *impasse* from which only processes of an entirely new and foreign order can extricate us. It is only the vulgar intellect that is astonished at the successes of to-day ; the scientific man may chafe at the slow progress made, but he is prepared to accept developments compared with which our present excellences are only elementary steps ; there is to him no unattainable, if only he is allowed to postulate that there can be no break in the chain, a never-ending one, but not returning upon itself.

What the ultimate of this development may be is inconceivable. There is indeed no end. If there were, it would be the evolutionist's idea of a God ; but if a final, accomplished end is impossible of conception there can to the evolutionist be no imaginable God, but only an interminable sequence which does not attenuate as it gets farther away but assumes a power and form which all our present knowledge is unable to grasp. Here is the difference between the scientific and the casual thinker ; the former is bound to believe in an illimitable chain of progress ; but he cannot imagine the end of it, and therefore he really goes beyond the latter, who proposes to himself a fixed point on which he locates all the force, power, goodness, and general omniscience that can be spoken of. The former sees only one order in the universe, the other troubles himself

little about it, reposes upon his limited vision and accuses the former of infidelity.

When St. Paul found an altar "To The Unknown God," he said, "Whom ye ignorantly worship, Him declare I unto you," and the God thus made known by the Apostle was made to be the embodiment of progress, morality, and power at a fixed point so as to be, in a sense, intelligible. Nothing but the advent of a man-Christ who was also a God-Christ could so well have demonstrated the fact of continuity, that there is no break in the chain between the known and the unknown; but how the man-Christ came and how He went away are epiphenomena which seem as if the course of ages had been anticipated and a glimpse given of future possibilities so that men might no longer doubt.

I have dwelt upon this doctrine of evolution because by it and by the retrograde process of dissolution we can alone estimate our present position and explain some of the manifestations of disease. Much of what is a terminus to-day will be an intermediate station to-morrow, but the aggregate of sound and true foundation does appear to be slowly growing, and there does not live the man who cannot say at the end of a few years that things are different from what they were, whilst he must feel that the inducement to attain progress is the incentive to work towards it.

The theory that prehistoric man must have been different both in mental and bodily development from his present condition, and that there will be further changes as time goes on, is a necessity for

those who hold that there is a survival of the fittest—a law as applicable in its application to the past as it is to the future. What the earliest conditions were, how the individual and the environment have acted and re-acted upon each other, we have only the faintest idea about. It cannot be conceived that man and his mental co-efficient have always been in the present state of development; there must have been a less elaborated form, containing, however, within it the germ of all that has been and is yet to be evolved.

Our present knowledge is limited to the history of a few thousands of years, and during that time it does not appear that there has been any material rise or indeed change in the bodily type. Propagation, growth, liability to disease, are little, if at all, different from what they were, but it does look as if knowledge of the use that can be made of the body, its mechanical advantage over the environment, has increased enormously; and it is possible that the body as we possess it is capable of still further extension of the sphere of utility—that it is not only enough now for what it has to do, but that even in its present structure and relations it is an instrument good enough for further potentialities. That the time will even come when it is insufficient to carry out the behests of the mental side and requires a re-modelling may be in store for the future, assuming for the moment that the one may exist independently of the other. There may be parts which are indeed useless or even detrimental and antagonistic to a higher development; but if so they

have yet to be discovered, and in the meantime we cannot suggest the nature or conformation of the man so changed in his organisation that he is in harmony with the new environment, though if such a change is ever realised we may be sure that the steps will be traceable and that the chain of harmony will be continuous.

In the meanwhile, there is difficulty in supposing that if it is true that there has been development on the mental side, there has been no corresponding advance in the nerve element as to structure or composition ; for even on the theory of parallelism, one must go *pari passu* with the other—unless, which is hard to believe, the side of structure is already in advance of that of function.

This difficulty lands us in an *impasse*. If knowledge has increased, so should its physical substratum have done ; if the physical substratum is really in advance of consciousness, what prevents the true manifestation of the latter ? To the martyr and to the spiritualist the body is a vile thing, a nuisance, an impediment to the higher workings of the “faith that is in us,” and when they take their stand upon their “belief” (which is, however, merely a supposition) in the existence of the “spirit,” of miracles and of the mysteries of the various faiths, who shall say that they are wrong in anything more than in their methods, or that they are more than lazy in that they prefer to repose upon the belief that they have found the highest type ?

If it is suggested that they are in advance of what scientists are painfully questioning and trying

to elucidate, it is certain that they are with the scientist equally in the dark as to what is the nature of the condition they profess to believe in. But more than this, they are intolerant of those who try to unravel the chain of which themselves claim to have found the terminal; and in their well-intended efforts to induce others to leap with them over the intervening links they fail to perceive that they are overlooking the way in which all true knowledge has been attained, namely by the slow associations of a continuity; and they forget that the terminal at which they place themselves is a hazardous one, which may be right or may be wrong, but the continuity of which with the present has not been found proved, while the conception of it is indefinite and in many instances incompatible with the terminal of others who have likewise ignored the imperative and only security of tracing by the thread of continuity instead of jumping the chasm of ignorance on their way to the ideal.

The divine, if he is a reasonable man, has much in common with the scientist. He is bound to believe what the latter has accomplished when it has passed into the stage of true experiment. But in his flight into the unknown he is the more audacious of the two; and in building up a creed upon the speculations of an unfathomable mystery he has no right to despise or to abuse the slow processes of the man who, whilst not denying possibilities and eventualities, prefers to arrive at them by the only pathway along which true belief travels—namely, the control of the subjective by the objective.

We see daily that the lunatic travels easily and without effort to his terminal. He believes what he says, and we must conclude that such terminals are the only fitting accompaniments of the present morbid material conditions ; but the belief can be here shown to be a false one, and in this he differs from the spiritualist, whose terminals cannot be proved to be wrong but may indeed be correct.

When the process of dissolution has set in, it is not to be expected that the layers will be uncovered in a regular manner. Parts of them will remain and we may trace their usual action over the underlying state ; but the harmony of action will be destroyed, and the decaying process may leave patches entire in themselves but useless because all their communications are cut off. Take the case of memory or precognition. It is said that the acquisitions of various parts of speech—interjections, adjectives, verbs, etc.—are successive and only possible as the growth and education of the brain proceed, and that when decadence sets in there is a regular order of retrogression corresponding with the order of acquirement. To some extent the principle is true, but does one ever see the *argumentum ad hominem* fully carried out ? It seems correct to say that as active memory declines the power of recalling abstract terms is the first to go, but one must confess to never having seen the order of retrogression strictly preserved ; nor indeed is it easy to see why this should be so in view of the irregular way in which associations and episttructures are built up.

I call to mind an occasion when an examination

candidate was asked to describe the "order of retrogression" in loss of memory. His answer was as follows: "This is evidently a question relating to dotage. There are three forms of dotage, namely, senile dotage, or loss of memory in old age; anecdotage, or that form when one repeats jokes in the same company over and over again; and table d'hôteage," the determination of the peculiar significance of the last form being left to the examiner to work out.

Destructive acts of a suicidal or homicidal nature in the insane can only be regarded, or in any way understood, by considering them as elements in the process of dissolution. They must be viewed as the natural terminations of certain conditions, and as occurrences in the temporary arrest or distortion of a nervous state which is in course of building up, just as in the fully developed structure which, having passed its zenith, is tottering towards its fall. An examination of the natural termination of diseases shows that as a rule it is by a rough, mechanical process. In enteric fever the ulcer in the intestine gives way and the patient dies from collapse; in lung disorders the breathing surface is gradually contracted until death ensues from suffocation; in heart and kidney affections the circulation is gradually brought to a standstill because the propelling power fails before the mechanical obstruction; and when insanity is established what is more likely than that the course of dissolution should be completed by a mechanical, so-called suicidal, act? If disease is a process of its own which is in direct antagonism to that of health, it seems most fitting that it should

run to its end, which when completed may mean the destruction in whole or in part of the organism of which it has taken possession. A suicidal act may thus be viewed as the necessary termination of a given condition, as the final act of a course of events which would not be complete without it. It may happen that the act proves to be the salvation of the patient, the note of his recovery, the date from which, metaphorically, the devil was cast out. Over and over again one meets with cases where the suicidal act is done without consciousness, and it is only when the brain has been relieved from congestion (seen especially in cut-throat or drowning attempts) that consciousness of the condition returns, and it is then that regret and desire for recovery replace the impulsive state. Of course this favourable result does not always occur, but when it does it illustrates very clearly the change from the reduced to a normal condition. Somewhat allied is the relief which occurs after an impulsive homicidal attack. Whatever the real condition of stress may be (and laboratory work has still to enlighten us in this particular) the tension is relieved by the working out into action ; and just as in ordinary circumstances a change in the kind of mental stimulus or very active muscular exercise is the only way by which relief from stress or worry can be compassed, so in disease where choice is impossible the very charged condition of the nerve elements leads to its own explosive release ; and though the results of the discharge, radiating and extensive in their associated combinations, may be disastrous to the environment,

they often succeed in relieving the impulsive urgency and in restoring inhibition. I call to mind an elderly woman of most destructive impulses, the object of the greatest solicitude to those responsible for her care, who was completely cured in a quarter of an hour, by a copious and spontaneous loss of blood from the nose; also another instance of a very destructive woman who obtained access to a lavatory, where she cut herself after the fashion of the "happy despatch" in the abdomen; after the copious loss of blood she became quite sane, deplored the act, and begged for all restorative means to be applied. It was too late, however; the final act of the disease completed her destruction.

In realising that every mental state has its own set of tendencies we may to some limited degree forecast the sequences of action, and it is because these conditions have consciousnesses of their own, incapable of exact recall, that it is so difficult to understand the motives which lead to conduct.

Mental states appear to be in a continual oscillation between higher and lower, and if the opportunity were taken of faithfully recording our subject- and objectivities whilst passing through these alternatives, it would be found at times impossible to believe that the continuity of process had been associated with such varied up-and-down transformations of the inner self and of its external side. A phonographic repetition of the day's sayings and a cinematographic representation of the day's doings would show many ups and downs in the levels of development whilst passing through even an ordinary epoch.

CHAPTER VII.

PSYCHOLOGY AND NERVOUS DISEASES.

It is well known that the treatment of mental diseases is very often in the hands of medical men who have not had any training in psychology and have not studied the laws of mental processes. Strange as this may seem, it does not appear to have interfered materially with the successful treatment or with the fairly accurate prognosis of the ultimate features of the disease. It would appear only right, if not necessary, that all medical men specially concerned with the care of insane persons should have a knowledge of the ordinary laws of thought, with the subject of mental physiology in its narrower details at least, if not with the allied subjects of logic, epistemology, and ethnology. But these cognate studies are undertaken by comparatively few, and at the medical schools it is a rare thing to find psychology either taught or attended except by those who are the alumni of a particular university.

Often, indeed, the subjects of psychology and of psychological medicine, as insanity is termed, are in the hands of the same lecturer, an arrangement which is scarcely fair to either subject, because

(though it may be possible to find men who are adequate to teach them in the same person) each branch is so large in extent and so complex that the result of the teaching combined in one individual is little more than a compromise of the same nature as would happen if physiology and pathology were taught by the same person.

It is no argument to say that the success of the methods of those who have not made a special study of psychology shows that it is sufficient for the treatment of insanity merely to go through an apprenticeship in mental disease. Such a line of argument may be at the root of the tardy development of our knowledge of insanity and of the existing incompleteness of the analysis of altered mental functions; and unless the study of insanity is placed upon a true psychological basis it is scarcely credible that it can ever be capable of a right solution. But psychology itself is by no means on a settled platform, and as long as there are people who still retain their belief in the process of apperception, of an "activity process" and of distinct voluntary agency, it is evident that demonstration of the real nature of mental processes has not yet been convincingly taught, and that doubts as to the proper interpretation of "mind" still exist—that, in fact, psychology is yet far from being a science. Even if this is true it is not right to study mental diseases without the aid of psychology, trusting alone to one's own experiences of subjective and objective mental states.

But although it may be granted that there is still

much in psychology that has yet to be explained, there are still many observations and inferences which appear to have been correctly made and drawn, and there are, moreover, certain laws which are not disputed—the whole forming a legitimate, if incomplete, bed-rock upon which we may with advantage take our stand when examining morbid processes.

We expect that when the material brain is functioning some result must ensue, but we cannot understand why the functioning takes the form it does. There does not seem to be any direct causal necessity between the action of certain cells and the occurrence of perceptions of sound or of abstract ideas ; and as it is apparently on all sides now agreed that the connection is best explained by a parallelism not strictly in the relationship of cause and effect it does seem as if we were endeavouring to explain and to analyse something intangible, of a different order from any other bodily function—an *imperium in imperio*, where not only is everything actually conditioned by changes in the material, but where, some maintain, there is a presiding influence which dictates as to whether what is the result of material change should show itself or not, nay, more, may even take the initiative and bring about a result in defiance of changes or workings of material. This is the origin of faith cures, of Christian scientism, of personal influence, of moral education, and of spiritual teaching ; and if we could grasp the nature of this psychological complex there would be much to say—in fact, everything to urge—in favour of the

obligation to study it in the treatment of mental impairment, but this we are not able to do.

We cannot understand the nature of a will-power, of a perception-power, of a power of memory or recognition ; and therefore we are driven to recognising that all that can be done is to investigate the structure and the changes in the material which we associate with the display of mental processes, not agencies, and to formulate theories which best fit in with the assumed parallelism.

What may be termed physiological psychology enables us to understand in some measure the highest mental processes, probably by presenting them in a way of material recognition more than by raising us to a higher standard of intelligence ; but when all is said and done, there are few who can rise from a study of, say, voluntary action from the standpoint of the modern psychologist, and say that the explanation is entirely satisfactory, and that there can be no such thing as free-will. Still, the investigation of psychology from the physical and physiological aspects has without doubt given us a better comprehension of the components of psychological processes, of the plan by which they can best be studied, of their relations one to another, and of the scale of development in which they are placed ; and however little psychology may up to now have helped the study and treatment of insanity, there is no doubt that much light has been thrown upon the former by the latter, whilst no writer on pure psychology could undertake his task with any prospect of success without a good knowledge of physiology.

At the outset one must not expect too much from psychology and its allies. As long as we are dealing with phenomena which can be subjected to experiment and expressed in mathematical terms, we appear to have made progress in the correlation of psychical with physical processes. For instance, if it is true that there is a method by which the intensity either of sensation or of stimulus can be calculated when the intensity of its correlate is known, if it is correct to say that the power of memory can be expressed in logarithms (and both of these given instances can be proved), it is surely a result not indicative alone of progress, but of a change in the way in which mental processes may be viewed, vastly different from that in which psychologists of the old school regarded the subject.

If the power of Attention, the exercise of which is so necessary in social relationship, can be expressed in terms of decimals by means of a reaction-time instrument, we are at once placed on a vantage-ground which enables us to measure degrees of concentration which were otherwise inaccessible. It is not to be argued that these reductions to mathematical expressions give us any more real knowledge of the nature of the functions investigated—Sensation and Attention remain as much mysteries as they did before—but that our position with regard to them is placed on a footing of closer familiarity, inasmuch as we can to a great extent measure their rise or fall, and so get a clue to the capabilities of the individual.

When we leave these objectivities and come to

speak of states of Feeling, Emotion, and Will, we are on far more theoretical ground. There is no law for either the intensity or the quality of feeling or emotion, and there are no means of formulating the process of voluntary or of impulsive action.

Psychology has, however, taught us that there was a necessity for an intermediate process between what may be called the receptive and the judicial or final mental states which should be the medium of procuring retention, avoidance, or delay in accordance with the metabolic requirements of existence, and these incentives or inducements are distinguished as feelings and emotions, and it points out not only how they enter into the composition of the highest mental processes, but how intimately they are concerned for their very existence with certain changes in the organic system. As was said of sensation, so of feeling and emotion: we know nothing of their ultimate nature, nothing beyond the conditions under which certain qualities which we call by these names appear; but it is essential to the better understanding of diseases in which alterations of feeling and emotion occur that we should know the conditions of their manifestation in the normal, essential because the psychology of the new and altered self in disease is unintelligible to one not versed in the physiology of the normal mental state.

To make this clear we will take the case of a patient who has, among others, the delusion that he has no viscera of any kind in his body, no heart, no lungs, etc. A case of this kind was lately presented to the class on psychology, and it was theoretically

very instructive. If emotion is intimately bound up for its existence and display with the organic state of the viscera—and this is universally allowed in the teaching of modern psychology—the patient ought to have shown signs of emotional deprivation in connection with his ideas. And such, indeed, did his condition appear to be. To most persons the idea of the loss of the viscera would, *per se*, be fraught with a painful and dejected emotional state, but this patient declared himself neither glad nor sorry. He said that he was rich and strong, but he derived no emotional satisfaction from these ideas. Nothing seemed to make him gay, nothing to make him depressed ; he was indeed tuned to an even temperament which nothing appeared to disturb. He ate and drank “because it was given to him,” and seemed insensible to gastronomic pleasures.

The question has been discussed by psychologists whether emotion is in itself a special condition, a sixth sense ; anyhow in this patient it appeared to be in abeyance, and it doubtless exposed him by its absence or lack of intensity to grave dangers. There are constantly streaming influences and nervous impressions which make up the vivid aggregate of consciousness ; but of this we only have knowledge under changing conditions of satiety or by the influence of disease, and it would be interesting to have a record of the changes in the emotional and instinctive states of persons who have undergone operations for the removal of some of the internal organs. These visceral influences upon the central nervous system would appear to be in the want of constant

renewal, otherwise a memory of them would not be established which would exist as an image when the objective influence was interrupted.

In the case of the patient above quoted it is, then, open to question whether the cause of his feeling of "having no inside" was due to central or peripheral lesion. In the former case we should expect all ideas connected with the organic system to be obliterated; in the latter the ideas would remain, but there would be loss of emotional tone or of whatever factor of the content of consciousness is supplied by it.

Consider for a moment the sexual system. People wonder why it is so early developed, think that it would have been far better if its manifestations had been longer deferred, and that much misery and many social difficulties would have been avoided had it been delayed to a later period of existence. In countries where sexual demonstrations are early manifested, it does not appear that early marriages are harmful, and in other places where development is later it is equally certain that the proper use of the organs is not attended with bad effects, but this is as regards the individual, not the social, system. The latter could not, with its artificial methods and constitution, afford to have very early marriages. Education has to be carried on during the years of development of puberty—training for business, foreign travel, and many other obligations which would be impossible to the young men or women trammelled by family ties; and so, though the natural conditions for the upkeep of the race are there, they cannot be made available legitimately in the greatest number of instances.

But there is a broader view to take of the early development of the sexual system than the merely numerical one of increasing the number of individuals, and that is, the influence on the mental condition at a time when it would be necessary for such a particular kind of influence to be felt. Up to the time of the development of the sexual system there is much in common in the mental characteristics of the sexes both when at work and play. If indeed it were not for the difference in dress and for some few changes brought about by early education on different lines in the sexes, it would be difficult to tell one from the other. In the early days of development the girl treats the boy as a being very like herself, with no particular feeling in any way different from her own sex; she admits him to her childish confidences, games and woes, in the spirit of a similar and kindred atom; but with the gradual bodily change at the period of puberty there arises a mental line of separation which is fitting in view of the complementary parts which as male and female they have to play in the vital and social economy, changes which take time to elaborate, and which must have at their disposal for immediate or deferred use the mechanical arrangement for the increase of the species when the necessity arises. And so the plan for the early increment of the tribe is perfected, but subjected to the mental necessities which shall evoke its aid when called upon, early or late as circumstances shall determine.

The state of things is, then, a strictly teleological one, a tendency to an end, a branch of practical

knowledge founded on feeling, in no way theoretic, which is founded on cognition. It might be necessary for a people whose ranks were thinned by war or pestilence to have a rapid increase in the number of individuals; if so, the means are ready in the early development of the material; it might, however, be advisable to limit the production, and the means for this are equally available in the subordination of the productive to the regulative powers.

To prevent the extinction of the species feeling is at times so strong as to overcome judgment, and leads to *lâches* of conduct which are, however, of only small importance, because the resentment of the *force majeure* of the community is inhibitive and repressive, and insists on processes being carried out in its own way. At the time of puberty there is, then, not only the rise of feeling with sensation, but there is also the rise of ideas (to a large extent probably prompted by objective changes), with corresponding emotional tones, and this latter complex is necessary for the existence of the social system; such ideas are those of sympathy, of regulated conduct, of the necessity for self-negation and of temperance, of truth, of perseverance and diligence, of self-esteem, and of moral obligation. These qualities take time for development; they can only attain perfection after the experience of successes and failures of achievement, and the mediating element is emotion. Now alteration in the emotional tone is one of the most universal and striking characteristics of insane states, and the recognition of the importance of it in the composition of mental pro-

cesses is perhaps one of the greatest services which psychology has rendered. Both feeling and emotion appear at times to be independent of sensation and ideation. The affective tone which we call "feeling well" or "feeling very well" is not of necessity accompanied by alteration in the intensity of sensation; it is more voluminous, and has none of the local character; and in the feeling of "depression" there is no evidence of change in sensation, whilst the feeling of "very great depression" cannot be traced to a necessary change in the character of the sensation; and in the same way there are many ideas which are apparently neutral, devoid of any pronounced emotional tone, just as the emotional tone of a group of ideas may vary without any apparent change in the ideas. On one day a group of ideas may be accompanied by an emotion of pleasure, but no such accompaniment need occur on a subsequent representation, or it may happen that on its recurrence the emotion may be made stronger, other things being to all appearances the same. As we are always in the presence of sensory or ideational processes, it is natural to form the conclusion that the affective processes are more than intimately connected with them—are, in fact, dependent on them; but whatever the relationship be, it would seem that it is not one of direct causation, nor even that it is of the nature of a parallel.

The statement that what is pleasurable is good for the body and what is painful is detrimental is merely an observation of general concomitance; it does not in any way explain the essence of the process, nor can it be said that the statement is universally true;

perhaps the more correct way would be to say that what is good for the body is pleasurable and what is bad is painful.

The conditions under which feeling and emotion exist in psychological processes are of great importance in our estimation of conduct in actual life, and in the inferences, often incorrectly drawn, of the blame or praise to be attached to certain actions. When the emotional tone of an idea is strong it may so affect that of all ideas in association with it as almost to obliterate the consciousness of the ideas and drive the individual into impulsive action. It would even seem as if the very emotional tone itself of an idea or of associated ideas may change, so that what was agreeable becomes distasteful, and this without any reason that can be traced.

In vain do we search the writings of psychologists for a satisfactory explanation of the true nature of affective states. We find nothing but a more or less complete narration of the circumstances of their display. Even Bevan Lewis's dictum, that it is a condition of over-action on one plane and of under-action on another, is not saying much; because we have seen both planes (the impressive and the expressive) to all appearances blocked, and yet, as the subsequent statements of the patient have declared, there was all the time a strong degree of feeling present. The advantage of a knowledge of the psychology of affective states is that it helps us to avoid mistakes. It shows that pleasure and pain are not necessarily connotative of definite bodily conditions and nervous processes as far as we know

them. It teaches us to observe tolerance with lines of conduct which are due, not to "wickedness" or "perversity," but to a physiological necessity as yet not understood, and it shows in unmistakable fashion that the visible expression of an emotion does not denote that the feeling or emotion is always there in correspondence with the action. The man who puts on the attitude of anger may be laughing in his sleeve, and the patient who stands in the attitude of love may be thinking of something unattached to any affective sentiment at all.

The psychology of affection between the sexes explains much of what passes daily before our eyes and affords the only clue to the mysteries of many ill-assorted marriages.

Briefly analysed, there may be said to be three forms of affective attachment: the strictly intellectual, with its accompaniment of sentiment tending to the realisation of a high ideal; the more usual, and perhaps the most successful, of an evenly-balanced mixture of emotional and ideal; and a union of the grosser sexual feeling with the minimum amount of intelligent element. It is this last form which causes much trouble in the social system in the way of impulsive engagements, weariness of the flesh, and lapses of morality. And yet the failure to recognise how impossible it is for certain classes of persons to avoid the results of these urgent promptings does not teach responsible elders to safeguard and train young people in the correct way; for they pass over and condone the early extravagances of emotional display instead of endeavouring to culti-

vate a due balance of the intellectual; and when the result of an undisciplined license is brought forcibly to their notice, instead of blaming themselves for passively looking on and abetting the action of a psychological law, they heap angry denunciations upon those who have merely followed an uneducated and unrestrained necessity. It is certain that there are individuals in whom an affective side of consciousness is only present in connection with the most abstract ideas—people who have an internal satisfaction in the performance of duty for its own sake, but who seem to be unfitted or unequipped for sympathy, and are unable to enter into the altruistic conditions which pervade the social system in general. Such people may be incomplete psychical puzzles, but they have a definite use in some critical social epochs, and they are always serviceable studies in the analysis of psychological processes.

It is in the study of what are called voluntary processes—the nature of will and of freedom—that we find the greatest help from the study of psychology, even though it may not take us all the way, and may to many seem unsatisfactory in convincing them that they are not in the presence of a distinct activity process. In face of the confession that we are inadequate to understand the inner nature of mental processes, and that in the light of modern research there is more than a probability that phenomena which formerly lay in the region of the occult are now to some degree within the compass of experimental demonstration—I refer especially to

such subjects as telepathy, spectral appearances, and "n" rays emitted from the body—it is not difficult to see that in the "power of choice" in the exercise of selection of this, that, or the other alternative, people "feel" that they are employing an agent which has the power of determining the course to be followed, which enables us to fix the attention upon the object desired, and is the ultimate autocrat of action. To such as these it is a shock to be told that there is no such thing as freedom of the will, that an act of will is really the necessary result of certain psychological processes in which feeling and emotion play the most important rôles, and there is no reason or need for the introduction of a new factor which has not been considered necessary in the interpretation of other mental processes. There appears to be much confusion in the minds of many who talk thus glibly of the "power of will," of "responsibility," of "freedom of choice," and so on. If they mean that they have in themselves a power of selection which they can employ for a good or a bad purpose indiscriminately, if (as they assert) this power can be developed by use and is of varying intensity in different people, it is evident that the will is not paramount, but is really subordinate to some other power which controls it; for to be able to use a force, or to modify it, certainly implies subordination to another agent, but of the nature of such an activity we have no knowledge. Again, the feeling of effort, of strain, which is so exhausting in prolonged attention, and where willing is concentrated and energised, is

without doubt a secondary product, though it is generally mistaken for a primary agent.

The religious school finds difficulty in accepting any system which does not embody the doctrine that man is a free agent, and they contend that the very use of the word "choice" implies a judicial power quite distinct from the highest faculties of the animal world. And indeed the old legal formula of basing responsibility on the power of acting upon the knowledge between right and wrong seems to endorse the religious opinion of making man a free agent, in that he is the possessor of a power to adopt a definite course whether it is to his interest and that of the community or not. Who is to decide the difference of opinion? On the one hand there are the psychologists, who say that willing is only a certain condition of the ego, of the mental state, of the self, which can be reduced to definite elements, and that when these elements are taken away there is nothing left; that therefore under certain conditions a man is bound to act in a determinate way, though this does not necessarily mean that he is not to be held responsible, inasmuch as he is not always careful to maintain in perfect action the mechanism which when functioning would end in the proper result.

But, say the activists, by your very arguments you are begging the question, because the power to maintain the perfect action of which you speak is the will for which we contend; it is what enables the man to say "yes" or "no"; it determines or arrests the accomplishment of processes which are, as it

were, under arbitration, and it is a primary function which comes into play when the *pros* and *cons.* of a subject are in immediate consciousness. Cannot a complete and crushing answer be found which shall settle once for all this difficulty about the existence of a special will force? Left to the inner consciousness of the individual, it does seem as if each settles for himself the course he pursues; or if perhaps he cannot settle it he refers it to some other mind to settle for him. What does that other mind do? He just brings in fresh disturbing elements which destroy the equipoise under which the first person was labouring, and if these create in him a satisfactory preponderance of feeling, then the act follows—that is, he does it; in other words, to use his own phraseology, there was in him no power of will until a certain *quantum* of data was produced, and this plus condition it was which gave the will a footing and enabled him, the possessor of the faculty, to allow it play.

It might still be said that the fact that the man halted between two opinions until an overpowering weight was thrown into one balance, was in itself an act of will; if so, then we have an instance of a power acting equally in two opposite directions at the same time, and unable to decide an issue; and moreover, what determines the issue is the rise into consciousness of a plus *quantum* which was not evoked by the will, however much the individual may have wished it, but which actually compelled the will to act in the direction of its indicated superiority. So that the “will” is secondary to a mental contest which of itself it cannot bring about.

For those who believe that there is a spiritual as well as a corporal body, all arguments based on a simply material construction must be unconvincing. We know nothing of the nature of a spiritual body, but we do know a good deal about the body corporal, and to the large class of men who recognise that it is futile to speculate upon theories which cannot be brought within the range of experimental inquiry there will be an impassable barrier when the question of pure metaphysics is brought up.

There is a sufficient amount of theory already even in what is held to be the true explanation on the physical side of psychological processes; the laws of association, of cognition, of complication, of the various forms of action, and of memory, are merely observations regarding the functions which are connected somehow with the energy of brain material, but they do not tell us anything about the nature of the material substratum, any more than a minute study of the nervous system would lead us to a knowledge of the psychical processes which, if not the output, are at least running parallel with them.

Still, we can to some extent show a form of connection between the physical structure and the mental processes which is adequate, and it is not until we are asked to explain an activity which has no understood physical basis that we are led to ask if the supposed activity is not a myth, without existence, the result of the idea of creating in the spiritual world what the upholders see in the physical—that is, a gradual rise in development until the highest form of inhibition is produced. So that to make the

parallel exact it would be asked, "Does not your highest inhibitory formation on the material side coincide with our ultimate determinate faculty of will on the psychical?"

Let us take an instance of voluntary action and dissect it into its component elements with the view of testing the statement that the process can be explained without the necessity of dragging in the influence of a special deciding element. Say that a person determines to act in a certain way towards an end. There is, first of all, present to his mind an idea of the end to be attained, and a feeling with it of the advantage or desirability of arriving at the particular end. So far there is only the knowledge that some particular muscular combination must be brought about to attain that object, but whether of an old already established group or of a new and untried one has yet to be seen.

The idea and the feeling having attained intensity issue in a form of action which fails to attain the end, thus forming a memory-association that such and such a form of action is not the right one. He determines to try another; *i. e.* the spoken word or the example of the right form of action arouses other movement-ideas to the extinction of the former unsuccessful ones, and if now the required or wished-for end is attained, the peripheral feelings aroused by the successful combination go to form the whole content of consciousness, so that when the idea recurs of the necessity for the act, the whole of the mechanism is adjusted for the performance of it, and is bound to function in the same direction. All

at once the clock strikes, or fatigue is felt, or it is suggested that it is time to do something else. If the new idea is an imperious one, then it with its strong emotional tone brings up its already experienced associated remanets, and a new course of action is followed. If, however, there is no new motive for change of action, then the existing processes continue until some reason arises for their alteration or cessation. Although the individual may wish to follow a course of a certain kind, it is not until after perhaps many failures that the combination necessary for the achievement of the wish occurs; and this is brought about, not by a *choice* of the proper combination, because he does not know what the proper combination is, but by the rise into consciousness of the adequate movement which is determined by an external series of events.

It is a pity that the word "choice" is so much used in connection with these so-called voluntary processes; it seems to imply the presence of a determinator in the sense that one might use in arbitrating between two opponents, whereas the real psychological meaning of it is the determining balance of movement-ideas. Until movement-ideas and their results have been experienced and acquired, acts of will are impossible. The movements of a child in the early stages are the result of feeling, and it is only with the growth of ideas and of movement-ideas that "choice," *i. e.* the knowledge of the combination that will effect the wish, becomes possible. If, then, there is such a factor as an activity agent, it must be lurking about somewhere,

waiting for the rise of material upon which it can operate. The earliest time of its appearance must be the fruition of a desired end, but this can be shown to be a possibly destructive instead of a conservative agency if it exists at all; and it is difficult to conceive the rise of a distinct agency which is to subserve the life or the death of the individual, not according as he may desire but perhaps distinctly against it. For instance, a child feeling cold is led to creep near the fire; as the feeling of warmth becomes more and more pleasant it creeps nearer and nearer until it grasps the bars and is burnt. This is an instance of action on presentation, explicable without the introduction of any will-power or activity process. The next sight of the fireplace by which it was burnt excites ideas of what occurred before, and the child, though feeling cold, does not grasp the bars. The idea of former inconvenience prevents the recurrence of an act; and this, too, may be explained without the necessity of introducing any active agency beyond a representative idea or acquired knowledge, which is the active state of mind at the moment, and which issues in a definite course of action. If the mere counterbalance of experience is not considered sufficient to guide action in the above instance, and it is held that the will of the child made it turn away from the fire, it is evident that with the rise of an idea of previous consequences a new element was developed which enabled the child to choose between two processes of action. It may be said that there is a vast difference between a simple action like the one described and the more

complicated states of adults where conflicts of duty, pleasure, expediency, etc., lead a man to ponder long before he finally resolves or wills to adopt a certain course. There is certainly a difference, but not one which renders necessary the impressing of a new will-power. For the importance of the occasion, the rise of the ideas bearing for and against the end to be arrived at, compel his attention. He can do nothing until the matter is settled; he cannot "will" to do this or that; he is at the mercy of associations until the time arrives when he must act, when either there is no result because the motives are equally balanced, or the act is performed in concurrence with the preponderating chain of associated ideas. If the contention is that, after all, when the final knowledge of what is the right thing to do has been arrived at by the interworking and the rise into prominence of an overwhelming group of ideas, the man himself it is who lets go the idea into action, or brakes it so that it cannot act, then we reply that there are experiments in psycho-physics which prove that there is no conscious process in the energising of motor-cells; the feeling of effort is peripheral, not central.

To reduce will to be merely the power which finally switches the current on or off is not, after all, to allot to it a very great function. If all that leads up to the last stage of the process is done independently or even in spite of such a determinant, we cannot understand how the force comes in nor where it comes from; nay, more, it seems unnecessary to drag it in at all: the whole process is automatic, self-regulating.

Arguments after the manner of the above fail to convince the majority of people, because they say that if the highest mental efforts are of this automatic nature, the individual is not responsible, since he is at the mercy of lines of action over which he has no control; that it is of no use for him to pray, because he has no power of choosing one of several courses; that whether a man is a success or a failure depends on his environment, which practically makes him what he is—that, in short, the spiritual element is entirely set aside, and man is merely a rather elaborate machine, more complex than other animals, but not superior to them in the possession of any higher faculty than they have. Those who deny the possession of a special activity-process do not (or at least should not) say that, apart from the spiritual element, there is no responsibility attaching to a man. Every one who has a sound nervous system is able to appreciate the general laws of his surroundings; he knows what he may do and must not do, and if he fails to do what is right it is because the attractiveness and the force of the chain of wrong ideas compel him to march with them. If at this time a friend or adviser is at hand to strengthen the ideas which are in danger of submersion, the man is saved; if not, he goes to the wall. Is such a man responsible? It would appear not if left to himself or if the advice of his friend is incapable of setting in action a correcting balance of ideas. Most people really are irresponsible. Most people do the wrong things; but if these are not very prominent they are passed by as mere *lâches*; if more serious,

then they are punished. If the ulterior motive (possible) is inferior in strength to the present one (possible and probable), then the present one will gain the ascendancy, whether it be to the advantage of the community or not, unless something intervenes to strengthen the ulterior motive. Oftener than not there is no adviser at hand ; and if, as is frequently the case, there is either defect in the material or want of education, so that the foundations of already acquired knowledge are impaired, and correcting influences cannot be imparted, then again the individual is irresponsible ; and this is what Wundt means when he says that " character is the sole immediate cause of voluntary actions."

The religious man prays that he may be guided aright, and by doing so he acknowledges his incompetence to determine anything by himself ; he leaves to God the responsibility of so arranging the balance of motives that what He deems best shall be done. Does not this very confession of dependence settle the question of will in the individual ? Is it not equivalent to the statement that man is unable of himself to help himself, and that the real activity-process does not reside in him ? The power of man over other members of creation is in no way like that of God in the eyes of the religious person. The latter claims that not only does the spiritual power provide motives, but that it actually enters into possession of the organism and exerts the determining or touching-off process already spoken of ; but no mere man can enter into the mind of an animal or other being whom he " compels " ; all that he can

do is to present motives and to visit their acceptance or non-acceptance with reward or punishment, but he cannot touch off the train of ideas, nor can he always determine the content of them. If he could, he would be of an order different from anything we have ever seen or can imagine. That some men are able to influence others must be understood in an indirect sense; they can only do this by presenting their own knowledge in such a way as to provide motives in the mind of the vacillating subject. They can do no more; they cannot know the intensity of the effect they produce or whether they have any effect at all, nor does the result always coincide with what was expected. True psychology does not claim more than that it is in a progressive state towards a science, and in the light of recent physical research it must own that there are probabilities which amount to certainties of the existence of forms of psychical processes which are superior to, but not essentially different from, those which we now recognise as the highest mental efforts; and if so, these undiscovered forms of continuity must have in subjection the processes already existing.

The religious people call this highest power God, and ascribe to Him finality. The mere psychologist must acknowledge the possibility of a higher nature of psychical phenomena than those already in evidence; and if so, it is not easy to see why he should disallow the existence, though he cannot as yet prove it, of an activity-process which may act in the way received with faith by the religious man. So that after all, between the religious man and the

sceptic there is not much difference ; the latter thinks that his philosophy is sufficient to explain most of the psychical displays seen in every-day life, whilst acknowledging that there must be yet higher developments which will alter his present interpretations ; the religious man says that he feels confident in the existence already of the highest spirit possible, which is quite enough to account for all that cannot be explained either by himself or by the sceptic ; and he is content to pass over the intervening steps which the philosopher is groping to find. That there are psychical manifestations of an order different from those given in the usual text-books, quite inexplicable, but still of necessary acceptance, because of the independent testimony and the character of the narrators, is not now seriously denied.

Let me give two instances which have come to my knowledge, and which I believe to have truly occurred, though I offer no explanation. Two men, one a celebrated actor, and the other a highly honoured journalist, were talking together in the afternoon, seated on opposite sides of the table. All at once the literary man saw two small red lights flash downwards from the ceiling and drop quietly on the table. "Did you see anything?" said he to his friend on the other side of the table. "Yes," said the actor, "some fire dropped from above." Much surprised, they looked above and around, but could find nothing to account for what they had seen. They rang for the servant, but he declared that there was nothing to account for it, and the

source and the nature of the vision-phenomenon are still a mystery, though there is no doubt that a new manifestation occurred, outside the experience of two mature men of the world.

On another occasion, when at the age of twenty, the literary man spent the evening at the lodgings of some friends, and when the time arrived for his departure it was found to be raining so hard that he at last agreed to spend the night in the house, where he was offered the use of a small room. Having lowered the gas to a faint flicker, he turned into bed and was soon asleep. After a time he awoke with a restless feeling of someone being present, and turning round he saw the figure of a young girl combing her hair and sitting before the mirror. He made a noise, without effect, to attract her attention, and then, covering himself with the bedclothes, he approached the figure, which had a brightness and distinctness of its own, but on his near approach the apparition vanished. When in the morning he described what he had seen, his friend remarked that the description exactly corresponded with the appearance of a girl who had died in the room and had been taken from it for burial a few days before. My friend, the author, knew nothing of the event, had never visited the house before, and indeed the fact that anybody had been in the bedroom before his occupation was purposely kept from his knowledge.

The above history comes within the range of the Psychical Research Society, and the science of to-day does not laugh at and ridicule such stories because it cannot explain them; rather does it acknowledge

the possibilities of a psychical process which it hopes some day to bring within the same enclosure in which are groups of what were at one time unintelligible processes, but which evolution has brought within experimental compass.

As there are members of the community who are of lower development than others, so are there some of apparently transcendental excellence, possessed of faculties of reaction and association which seem to place them on a different level; and yet when their flights of imagination are reduced to words the imagery can be followed and is seen to be nothing more than a complicated web woven out of the ordinary materials. There are others who appear to be at times capable of processes which no analysis can explain, who have transient manifestations of mental display so different from what we are accustomed to that we must either deny the truth of what we are told or must accept and believe that there is a manifestation through material structure of something—call it spirit or what you like—of which we know absolutely nothing, but to which we cannot deny inhibitive power over the highest development that we do profess to (in a way) understand.

The question of responsibility seems to be as difficult of settlement as ever. If we deny it to the lower animals, it is difficult to force it on man, because it is not proved that in a man's choice of a course there is any essential difference from the process by which a dog chooses between following a stranger and keeping to its owner. If there is

a will-power in the one, surely there is in the other. Sensation, emotion, duty, attention, and acts of will are present in animals just as in man. Where, then, is the difference? Why is a man to be held responsible in such a way that he is to be ostracised, or even extirpated, if he acts in a way offensive to the community? The answer seems to be that he has a development of a different order, and that in it has arisen the power of reception of facts which form beliefs of a nature beyond the capacity of the lower animal world.

The teaching of Christ was limited to man, whose development was of an order sufficient to receive it up to a certain degree, *i. e.* that it was a mixture of things which he could understand and of others which had to be taken on faith. If, then, man was capable of being brought to believe in the truth of some things to which he was before blind, why should he not accept as true the remainder which he confessedly could not understand because—as all must acknowledge—the evolution of his material was not completed. There can be no difficulty, then, in accepting the teaching of Christ, and there is no greater difficulty in so doing than there is in the mystery of the origin of a blade of green grass from the latent energy of a dried-up seed.

The psychology of the day leads up to a certain point, but it is very certain that it is nothing to what will be the scope of the psychology of the future; and it is absurd to talk of the conflict between religion and psychology, because the former includes the latter, though it is of far more complex nature,

and it is difficult to realise that the two will ever be synonymous.

It is possible to allow the existence of agencies which cannot as yet be proved, and there is no difficulty, scientifically, in allowing that what we see, but are at a loss to account for, may result from the influence of an agency which, though of the same order, is so different from what we have ever experienced that any conception of it is impossible.

It would seem, then, that if our mental processes are subject to the influence of unknown yet superior agencies the question of responsibility is much narrowed. What a man fails to do results from a defect in the material which must be at the base of the mental demonstration, as far as we know it, or else must be due to misdirection or failure of the controlling influence. In the former case he is incapable of correct action and is clearly irresponsible; in the latter he lies at the caprice of an unknown quantity.

The only alternative is that man is a free agent, and has in himself the capacity of choosing rightly or wrongly, a condition which sees itself contradicted by everyday experience.

The doctrines of predestination, liberty, and will are all speculations which true psychology may accept, but to which it would be an impertinence to put its seal, because it is at the moment incapable of postulating the conditions.

As I sit writing I see from the window a number of youths running in the rain, half-clad, some in

violent distress, all looking very wearied, and I am told that they are going through a school-run imposed upon them by command of the house-master. What makes these boys so comport themselves? For it is scarcely credible that they would carry out so apparently disagreeable an act unless they were compelled to do it. On making inquiries I find that the boys are acting under the influence of an order which gives them no choice, but that they must go first in this and then in that direction, and that they must run all the time. This "order" many of them have never seen or heard; it has been handed down by tradition and is implicitly obeyed. I might have supposed on looking at these boys that they were acting voluntarily, on their own initiative; but it turns out that they are mere machines, started at a certain time, guided in direction by given signs, and filled with the idea of accomplishing an end, under fear of pains and penalties. There is nothing in the action of these boys, so far, which cannot be explained on ordinary psychological principles, but I know that in course of time these same boys will be placed in positions where the "choice" between sets of abstract ideas has to be made, and I am asked to believe that they have in themselves the "power" of making this choice. Whence did this power spring? and where were the seeds of it? "Oh, in the environment," say some, is to be found the controlling agency. But notwithstanding the environment and its influence, we find that the man sometimes "chooses" wrongly, *i. e.* there is something superior to the environment, and this superior power,

I am quite content to believe, is in the unfathomable direction of the spirit of the religious man.

In the travel of an engine at full speed we might see the powers that we ascribe to a living thing—a savage or an aboriginal would do. It is, however, we know, moved or arrested at the control of a man, a living power in some degree related, in that he contains many of the ingredients of the machine which he compels, but in other qualities different, in that he contains in himself properties which, able to a great extent to act automatically or mechanically, are only to be understood *quâ* their actions, as being under the influence of a superior agency which may be as unlike the man as he is unlike the machine.

Talking of the value of association in discussing the potentiality of human mind, Wundt states his belief that “man really thinks very little and very seldom,” and he adds that “just as every one in the course of his own individual development takes the step from association to that of intellectual conscious activity which arises from it, so must mankind have done at some point in the world’s history.” Wundt’s teaching thus leads to the fact of the existence of responsibility in some people and not in others, in accordance with the amount of “intellectual conscious activity” which has been developed, an evolution of mind from itself under the conditions set by the environment, and this, according to himself, is not much.

I hope that it has been made clear that, though psychology is still in a very incomplete state, it does yet afford us a certain degree of insight into the methods of mental processes; and that, incomplete

as it is, the basis of it may be taken as fairly established and capable of carrying a superstructure the height of which cannot be imagined.

There is the possibility that just as our old chemical theories, terminology, and nomenclature have been changed by modern discoveries, so may a new light be thrown upon the nature of mental processes, and the whole of the existing fabric swept away, but the principles laid down by Hughlings Jackson, Spencer, and others appear to be applicable to all that we know, and will probably be fitting for what we have yet to learn.

The religious schools have been rather unreasonable and harsh towards the psychologists, taunting them with the incompleteness of their methods and the little amount of the way covered of the path of knowledge; whilst arrogating to themselves a fulness of belief that they are already in the possession, by revelation, of all that the scientists are struggling to attain. Many even condemn inquiry into the nature of these processes as an impertinence, though it is satisfactory to note that the more discriminating among the teachers and professors of the religious sects do now direct that it is not irreverent to examine critically, with the object of better appreciation, the dogmas and statements hitherto accepted in all their dress of allegory and metaphor. Rightly interpreted, psychology is the handmaid of religion, explaining many of the difficulties of the abstract conceptions of the latter, and exemplifying a patience, a tolerance, and a search after truth which the professors of religion would do well to emulate.

CHAPTER VIII

ON HYSTERIA

To recognise that hysteria is a real condition of defective or perverted action of the higher nervous and mental states, not merely a phantom of the imagination, to be laughed away or pooh-poohed as a mere sexual triviality, is to approach the subject in the only way in which we can obtain anything like a just idea of its nature and treatment. Though an attempt has been made to draw distinctions between it and neuro-mimesis and neurasthenia, they may all be practically grouped together as implying a condition attended with symptoms simulating in many respects those resulting from organic disease, but in which the organic basis is not known, and where the symptoms are liable to sudden cessation or change both in character and intensity. It is probable that more reputations have been lost or gained over the correct interpretations of cases either of pure or complicated hysteria than in any other form of disease, for there is nothing which it may not simulate as regards pain and nervous conditions of the cerebral or spinal, the visceral, and other organs of the body.

The enumeration of symptoms is not necessary

here, as they are fully given in text-books of medicine and surgery.

To say, as Dr. Schofield does, that "the mental factor in hysteria is the unconscious mind," is indefinite, because we have no knowledge of the nature of such processes. But it is not therefore wrong, though it is inadequate, to ascribe influences to processes which may well be supposed to exist, although these are at present very much in the stage of mere hypothesis. There are many nervous and mental processes at work of which we have no consciousness, and it is to be regretted that there is no better formula to hand than that of "unconscious mind" to express these excursions beyond the limits of those of which we are conscious.

In any case, whether conscious or unconscious, we must be right in assuming that some material derangement exists, whether of a functional (temporary) or organic (permanent) nature, whenever the symptoms are truly present; for it cannot be conceived that in any case, even where imagination is said to be conjuring up a phantom, there is no change in the condition requisite for perfect working mechanism. If, for instance, it be granted that by attention concentrated on the imagination of a pain in some part of the body, an actual feeling of pain is produced; or, to put the matter beyond mere subjective statement, if there is an active demonstration of change in a tissue brought about by concentrated attention, there must be an actual material change, both central and peripheral, attended with altered sensation or feeling; and to say that this is of hysterical nature does

not, or should not, mean that it is all "imagination," and that there is no actual structural alteration present. It may happen that, *e.g.*, sitting in a railway carriage one side is more exposed to cold air than the other without the fact being noticed. Suddenly, on attempting to move his leg, a person finds that he is unable to do so, or that he has lost the feeling of doing it. If he is what is called a nervous person, he becomes frightened and says that he is paralysed. After a time, as warmth returns, he is able to move the limb as usual, and he laughs at his former "hysterical" fears. But it was not an imaginary, it was a real condition of organic though temporary failure, due to a change primarily peripheral and secondarily central in that the cerebral connections with the distant organ were upset, as shown not alone by the altered feeling, but also by the inability of nervous and mental processes to take place. The person may wish to move his limb, but he is unable to do so because the central mechanism is at fault, temporarily, perhaps, but none the less really.

To suppose that hysteria is all nonsense—a creature of imagination, and to be treated by rough argument—is only consistent with that spiritual theory which assumes a power of will, an activity process, a force by which we compel material tissue to act in a certain direction. It is akin to the mode of speaking, as when it is said that a man has lost his memory, not because his material structure is affected, but because his "faculty" of memory, his power of recalling, of ordering latent remanets to present themselves in consciousness, has for the time disap-

peared. It is not merely unwarrantable, it is unnecessary to take this view. It is no more possible to believe that imagination or idea or memory can show themselves without physical change than it is to believe that a physical change can take place without producing an alteration in the mental symptoms. It is possible for a person to say that he cannot move his limb, or that he has a pain somewhere, or even to exhibit a group of complicated symptoms simulating those produced by actual disease ; but this is not genuine hysteria—it is merely telling lies. Hysteria is not lying ; it is not merely “ functional ” disorder, because the latter cannot be tolerated for a moment as meaning that it can exist without a material cause or concomitant. To say that a limb does not move means either that a man cannot or will not move it ; in either case there is a very good reason for seeing why the limb remains stationary. Those who scorn any material or nervous connection between material or nervous and mental processes are the real obstacles to the true estimation of those neuroses included under the head of hysteria ; for if there are faculties such as power of will, power of memory and of attention, then if there is no material alteration it must be one of these “ powers ” that is at fault ; but since we have no knowledge of these “ powers ” apart from the integrity of the material structure, we cannot conceive what sort of inability it is which is at the root of the “ imagined ” symptoms. Besides, it is a very curious thing that a complicated group of mental or motor symptoms involving connections which the patient never before experienced should

be picked out by one of these "powers" which refuses to act upon it.

To tell a person who has a hemiplegia due to central breakdown that he is able to get up and walk, and then to find that he can do so is to perform a miracle. To tell a patient who says that he cannot open his eyes, or that he cannot move his arms, that it is all nonsense, and that he can do so if he choose to make the effort, is either to presume that he is shamming, or else to give him to understand that he has the power to act if he will only use it, intimating that his refusal to do so is not owing to any defect in the material but rather on the mental side of his organisation.

Now, there is no doubt that cases do come under observation where suggestion, a strong command, or a rigid moral control would appear to have a beneficial effect, and as no other remedies have been used it may appear that the disorder was merely "functional," not dependent upon any material defect, but due to want of that "will power" or "force" which so many are fond of postulating as a distinct factor. We may even allow that states of mono-ideism, of concentrated subject-consciousness, are possible, and are relieved or altered or cured by nothing more than the exercise of the personal equation of some particular individual; but this proves nothing more nor less than that other nerve processes are stimulated which were in abeyance, and that the part which was (as seen by the physical symptoms) under temporary stress (and therefore organically affected) is relieved and resumes its normal conditions.

Moreover, it does not always happen that these reactions to command are obeyed; the hysterical condition may continue in spite of all extraneous influences, because in truth the material is not in a state capable of immediate receptivity; it is injured, and only after the organic conditions have been rendered normal can the usual influences be successfully exerted. It is often forgotten that there is more in the spoken words of an authoritative voice than is credited. To speak, and to speak with determination, is really a strong physical stimulus or irritant. It appeals more directly to nerve tissue than does any form of direct stimulus, and is therefore a powerful remedial agent in itself, and simply because it is perhaps moral and persuasive in tone, appealing to the energy and activity side of the individual, it is supposed to work upon the "merely mental" side of the patient; whereas, strictly speaking, it is not only a way of procuring brain stimulation, but is often the only way in which nerve structure can be influenced at all.

To provide other forms of "moral" persuasion such as surprise-baths, shower-baths (skin stimuli), sudden alterations of light and shade, is in the same way as authoritative command purely physical stimulus, not, however, as a rule recognised as acting from this point of view. We have only to notice the positive pain of an unexpected shrieking whistle, or even the actual deafness produced by it, the changed physical conditions set up by modifications in the intensity or quality of kinds of light, and to note the actual structural changes which can be proved to result

from these, to see how physically potent are what are often described as "moral" remedies, and to conclude that there is always a material basis for an "imaginary" condition.

In view of the preceding it becomes necessary to speak of the physical alterations which may be supposed to be present in these hysterical conditions. First of all, we may refer to the states of health in which, going about our ordinary work or pleasure, we have little or no feeling of subjectivity beyond that we feel well. We have no knowledge or consciousness that there are any viscera or other organs, which are, however, all the time in action, pouring into the central nervous system impressions which contribute to the knowledge of ourselves as going concerns, but not perceived separately. All these centripetal and centrifugal influences are the chief part of the "unconscious mind" which is spoken of by authors. The influence of the development of the sexual system upon the mind of the individual as shown by the growth of the altruistic and other signs is well known, and is an instance of what is meant.

The locale and the exact nature of the change produced in the centres by these peripheral excitations are not known, but they must be supposed to have an important and definite effect upon the structure. I have already had occasion to refer to cases where, owing to anæsthesia or dyæsthesia in the peripheral organs, delusions have been acquired of the loss or injury to these organs; whilst *post-mortem* examinations have shown the existence of central organic disease. It is safe, then, to conclude

that if anything occurs to interfere with the continuous or rhythmic flow of visceral or peripheral nervous connections with the central system there must be a change in the latter which is bound to show itself. Is it possible to conceive that if the unfelt connections between the central nervous system and the peripheral organs were severed there would be no knowledge of a change in feeling and no structural alteration, however impossible it might be for the individual to describe the nature of it? I have seen the character of a woman completely changed by the extirpation of the uterus and ovaries; and it is difficult to know how we could estimate time and circumstance if the rhythmical action of the heart and the viscera were done away with.

Experiments are not wanting to prove that after amputation of the limbs actual central lesions are produced, and it seems impossible to conclude otherwise than that whenever a change occurs in the parts connected with the central nervous system there must be also a change in that central material. It may be that the change is merely the arrest or the excess of the ordinary stimulus, and is of a temporary nature. What if it is? There is at any rate some alteration which must show itself in the mental symptoms, and it would seem as if the mere fact of the peripheral system being at fault primarily and only indirectly affecting the central organ, and the ignoring the fact that you cannot have the one change without the other, is at the root of the general idea that the hysteric is an impostor.

To the patient who is unable to move a limb or who

has feelings of changed visceral conditions, it matters not that his loss of power and his changed feelings are not due to disease, and may be only temporary conditions. They are for him real states, and indeed, if it were not so, all scientific physiology and pathology would be wrong. It is true that he cannot move his limb, it is true that he has peculiar sensations and "silly" ideas or delusions if either some external or some central influence is at work which makes such a change in the material structure that the mental side (whatever theory of mind be taken) is unable to manifest itself efficiently.

There are many mental processes which we cannot correlate with physical changes, in the present state of our knowledge, and to this extent the pure metaphysicians have—or think they have—an advantage. It is not only possible but presumably certain that there are individuals who are peculiarly appreciative of external conditions to which others are insensible, and in these people expressions and ideas will arise which are unintelligible to the ordinary observer, who is apt to place the new demonstrations outside the category of what is true or reasonable; but there ought to be no difficulty in allowing that correct observers must not be thought to be deceivers or fanciful folk just because they enunciate facts which are beyond the ken or the explanation of the unenlightened. But when we are asked to believe that certain symptoms are due to the want of connection between the material structure and the "power" or will, or of attention or of memory—*i. e.* when it is suggested that there is in hysteria merely a weakness

or inability in certain supposed purely mental factors which cannot act upon an otherwise healthy material—then all that can be said is that we know nothing of such a separate bundle of agents, and that the question cannot be argued upon such a basis.

The ordinary language even of persons scientifically educated is all in favour of the dualists. To talk of persons suffering from aboulia or loss of will, of amnesia or loss of memory, may very easily be taken to mean—in fact, is generally understood—that certain “powers” have been lost, whereas what is really intended to be conveyed is that the results of certain material changes are not forthcoming because of the absence of that particular condition which is necessary for their exhibition. If there are definite spiritual essences or forces or powers which are quite independent of the physical nerve structure, and are susceptible of weakness or strength (all of which is implied in the terms “weak” or “strong will,” “weak” or “strong memory,” etc.), it would seem to be of little use wasting any more time upon studying the anatomy and physiology and chemistry of the central nervous system, unless, indeed, it is argued that these ethereal forces or powers require a structure of a certain complete kind through which alone they can be made evident, though they themselves are liable to disease or defect without impairment of the physical structure, when of course the fact of the latter being sound is of no consequence. Imperfect though our knowledge is of the exact nature of the central changes which are to be found in various forms of paralysis, epilepsy,

hallucinations, and delusions, we do know to some degree the parts and tracts implicated in many of these lesions and groups of symptoms, and we recognise that the grouping of the symptoms must denote a corresponding grouping in the alterations in the central nervous system; so that it is easy to see how in hysteria, supposing for the moment that it is an "imaginary disorder," the symptoms will simulate those of known actual disease, because in both cases the same central elements are implicated; and whether the loss of function is real or imaginary, the general grouping cannot be altered. Let anyone try to assume a position quite strange, or move a muscle separately from others than those with which it is generally combined, he will fail conspicuously. If hysterics did anything of the kind, if they assumed strange unaccustomed attitudes and paralytic postures of a kind to form a new departure from the everyday shapes, they would perhaps prove a title to the group of impostors; but the very clinical truth of their symptoms is a testimony to the authenticity of the underlying structural implication; and especially is this so when we note the fact that the symptoms are often so complicated and so pathologically exact, even at the first time of showing, that we cannot conceive how such a copy could be intentionally brought about. Surely the accuracy of the "hysterical" groupings shows that the same tracts are affected as in the "organic" disease; and it is mere nonsense to suppose that "unconscious mind" or "mental activity" refuses to act upon certain grouped structures, and therefore sets up a paralysis,

or acts violently upon them and causes spasmodic action, when the more likely explanation is that the material structure is affected and incapable of functioning in the direction which we call power of will or of attention.

In that form of insanity called hysterical it is not uncommon to find delusions of a nature primarily resembling those of organic disease. What is the difference? None in the form of the delusion, of the emotional state, or of the acts attending it. It is said that there is more "consciousness" attending the hysterical form, less fixity of the ideas attending it, that the patient will for a time forget all about it, and only recurs to it when her attention is again called to it. All the time this is going on there is very probably a slight elevation of temperature and other signs of mental and bodily impairment, together with a history of previous conditions which may probably be considered to be a cause. If in addition the patient complains of a lump in the throat or has a fluttering of the eyelids, she is at once put down as hysterical, and is regarded as suffering from an imaginary disease. And yet she may never have heard before of the delusion she is uttering, nor of the thyroid gland, nor of the order of the symptoms of the epileptic attack through which she passes in exact accord. How is it, then, that the resemblance to an organic affection is so exact? There can be no other answer than that the resemblance is due to an affection of the same tracts but of a temporary nature. The nature of the lesion cannot be exactly spoken of; it may be due to

some temporary anæmic or congested condition, to some exhaustion of the functioning power of the nerve-cells, or to a hundred other conditions which may be easily supposed but which cannot be verified because of want of opportunity. Here is where the difficulty comes in. There is no pathology of hysteria because of the temporary and curable or recoverable nature of it; but it is quite allowable to suppose that if this condition is prolonged, a very considerable permanent lesion may be set up, resulting in destructive organic changes.

Every mental state has a physical state corresponding to or parallel with it—as far as we know; and although it must be confessed that there are many exhibitions of mental processes which we cannot correlate with physical structure, we are still justified in pleading that the correspondence is there although we may not be able to fix it. Of mind without nervous system we know nothing; even of mind in connection with nervous system we know very little; of disordered mind we never think without at once attempting to localise the part of the nervous system which is affected. One of the plausible arguments used in declaring hysteria to be a “functional” disorder merely is that it is often cured immediately by some sudden shock, or by an authoritative mode of address much in the same way as a hypnotised person shows automatic reaction to command. Such cures may be well believed to be true, but it by no means follows that the curative measures have merely restored “function,” without at the same time effecting a change in tissue. The suddenness of a shock

means neither more nor less than the violent disruption of a train of thought by calling into action other parts of the nervous system, with the result that the parts first affected have the opportunity of recovering their normal relationships. In the same way the authoritative enforcement upon the passive attention of the patient of a new series of presentations tends by its constant repetition to set in action a different part of the nervous system, and must relieve the structures first affected—unless, indeed, the mischief has gone beyond the stage of response or of recovery from their impairment. Often it is found that authoritative or firm treatment has not the desired effect, because the new stimulus is so much weaker than the strength of the present mental content that it falls on practically deaf ears, just as a person who is reduced to the state of mono-ideism called ecstasy is incapable of being impressed by a stimulus of even large degree. The effect is not unlike what may be supposed to take place when sedatives or narcotics fail in the presence of acutely painful or in maniacal or deeply melancholic states. It is probable that sedatives act more by controlling the unaffected parts of the nerve centres than by correcting the trouble directly caused by the diseased structures; indeed, unless sedatives or narcotics are given to an almost dangerous extent, they are generally useless in procuring any sleep in very pronounced insane states, and it is matter of common observation that such rest as is procured is always of an imperfect character, much troubled by the interference of the active and unsubdued disease.

We do know that sedatives and narcotics affect normal and healthy nerve structure in a certain way, but we have no knowledge of their effect upon diseased structure—if, indeed, they are capable of modifying it when functioning excessively under the influence of great irritation. Under ordinary circumstances stress leads to active degeneration, and if the condition of the hysterical patient is not relieved it may undoubtedly pass into one of permanence and incurability.

The danger of too often repeated states of hypnotic suggestion falling into a permanent organic affection is an apt illustration of the result of stress and the evil effects of continued worry, of solitary living, of protracted anxiety, and of other conditions of mono-idealism which figure largely in the accepted cause-lists of insanity. The instantaneous effect of relief experienced by a person under the dominating effect of some group of ideas which he cannot shake off when a different and salutary chain of thought and action is presented is of the same kind as that which causes sudden shock or imperative command to promote the change in hysterical persons. It is due to a physical disburdening of overstrained parts which have not been too far stretched for immediate recovery.

There are numbers of cases on record proving that sudden shock on the receipt of bad news may show itself by syncope or apoplexy, or by an actual attack of insanity, and nothing is so fruitful a cause of an attack of gout as worry or prolonged mental excitement or strain; the effects may indeed be actually

traced in degeneration of viscera ; how much more likely, then, are these to be found in the central nervous system ! Moreover, it is not as if these "hysterical" conditions are unattended by antecedent causes. I have never met with a case in which there was not previous evidence of stress, and stress means over-action or impression on the material side. In allowing mental and moral causes as true factors in insanity or mental derangement, we mean only that the structures which underlie the exhibition of mental alterations are physically affected. "Worry" is only another term for continued local irritation, "shock" is another way of expressing the destruction or injury of tissue, and "fatigue" is just the exhaustion of our functional material.

If mental faculties, unconscious mind, worry and moral causes are states by themselves, why, it may fairly be asked, do they not have an arena of their own in which they may display their irregularities or issue in decadence without taking note of the material structure ? Just because they are essentially complementary structures indissolubly connected, incapable of independent existence, as far as we are concerned, is the answer ; and if the material has been only lent for these "faculties" to operate through, it is at least fair to argue that perfect action in the one implies perfect action in the other, and that any signs of decay or defect in the one are connotative of parallel changes in the other. Who ever knew of profound mental agony without bodily distress, at times resulting in complete dissolution, or of the symptoms of mental alienation without struc-

tural changes, to be detected *post mortem*? And can we not eliminate different parts of the body and destroy all vestige of mental functions beyond the possibility of recall? We have no right and certainly no reason to suggest that hysteria, neuro-mimesis, or neurasthenia are unconnected with structural change, unless indeed, we place all the exhibits in the category of shams and deny the foundations of synthetic philosophy.

The subject cannot be dismissed without a special reference to the sexual element, which is commonly supposed to be a necessary factor in hysteria. As a fact there are few forms of mental impairment in which sexual symptoms of greater or less intensity are not present. The sexual system enters so largely into the composite life of the individual that it would be strange if some note of its presence were not generally sounded in impairment of the central nervous system, either as cause or effect. When the sexual system is very active, as in young people, or when, as in old people, it is chiefly represented by sexual memories, there are few phases of diurnal life when it is not called into prominence, pervading as it does, under the different titles of love, esteem, compassion, affection, solicitude, marital, parental, filial, altruistic duty, the whole fabric of social relationship. It would, then, be quite an anomaly if we had mental perversion without, in some form or other, the implication of those processes whose development we trace to a sexual origin. As it often happens that the very complicated sexual system, especially in the female, is deranged either function-

ally or organically, what is more likely than that the central nervous system should be profoundly affected and ideas set up which are in direct relationship with the sexual element? And that there is a profound and real impairment is probable from the fact that the delusions or false ideas remain when the sexual system is for the time being cut off, as in amenorrhœa, where no actual disease is present in the organs, but, consequent upon their inaction, we must suppose that the unconscious brain stimulus is absent. Take the converse case of a patient suffering from an attack of insanity caused by overwork or trouble, where, as far as can be ascertained, direct sexual causes are absent. Here no one is surprised at the exhibition of mental sexuality, because it is recognised that the local signs are in the focus of the disease, and that they will only cease with the return of the actual brain tissue to its normal state. Those who are in asylum practice where large numbers of patients come under observation are accustomed to exhibitions of sexual implications in most of the forms of disease, but if asked they would probably say that it is just in the cases which are commonly classed as "hysterical" that there is less sexual demonstration than in any other; such, at any rate, is the result of my own experience.

Without doubt the etymology of the word "hysteria" is chiefly responsible for the prevalence of the general opinion that it is necessarily connected with abnormality or derangement of the sexual organs. The usual definition of hysteria, that it is a nervous disease involving no recognisable anatomical

lesion, characterised by unrestrained desire to attract sympathy and attention, is most applicable to the group of women who are met with in asylums and are distinguished by the trouble they give and the mischief they do, when there is no apparent object to be gained except self-gratification at being able to concentrate interest in their own proceedings. Patients of this class are the greatest disturbers of the domestic peace of the asylum and the cause of the greatest anxiety to those in charge of them. They have bouts or turns of these demonstrations. Often, indeed they are very useful persons in helping to carry out the work of the ward, but suddenly or with little warning they "go off," making suicidal attempts, or, apparently seized with uncontrollable impulses, they inflict considerable damage on property or individuals. There is no nonsense about these attacks, no regard for consequences, no desire to go so far and no farther; they just resemble the impulsive acts of epileptics in intensity, but are longer in duration, and in this respect they differ from merely passionate persons. Often there is an abnormal irritability of the heart, and in no case have I ever had difficulty in recognising impairment of the nervous or bodily organism due either to congenital imbecility or to acquired disease.

It is true that these subjects compel a deal of attention because of the dangerous and troublesome character of the symptoms, but that they "desire" it is by no means so certain; often, indeed, they recognise that they are ill and would gladly be alone if it were permitted, so that it seems scarcely possible

to agree with one prominent writer, who urges that hysteria is impossible except in one who is an atom of the social system. Solitary hysteria is just as likely to occur as solitary madness, and if there is an increase in subject-consciousness there is also very often a marked loss of object-consciousness, a real disregard of what outsiders think or say; hence the sympathy of bystanders or their attention is not so much the cause or motive of the patient's demonstration as it is the result of the desire to relieve the painful and distressed state of which it is the witness.

These two points, the unrestrained desire to attract sympathy, and the non-recognisable nature of the anatomical lesion, are the usually accepted criteria of the condition called "hysteria." With regard to the first, it is a case of *hysteron-proteron*, for (except in the malingerers) there does not appear to be the desire to evoke pity; often, indeed, the sufferers go to the extreme length of self-destruction as a result of their morbid self-consciousness and changed personality; and as regards the second point there is no reason to doubt, but every reason to believe, that a structural lesion is present, though from the non-fatal character of the disorder we have not the opportunity of investigating it. In all cases some good reason for the disorder may be found if sufficient care is taken to look for it; either there has been mental stress, such as a tortuous love affair, a rise of self-consciousness due to want of occupation, strained or unhappy social home relations, or there is evidence of physical deterioration and neurotic

descent, in many cases accentuated by an environment calculated to foster any constitutional weakness.

About twelve months ago I saw a young lady who was said to be suffering from hysteria, but in whom there was without doubt actual physical disturbance, and it was not until she was treated on the latter basis that recovery occurred. In this patient there was a slight elevation of temperature, delusions as to pregnancy, false ideas about having slugs and worms crawling inside her (a very common delusion in "hysterical insanity"), and a depressed emotional state, with suggestions of suicidal impulse. Though there was considerable increase of subject-consciousness, she was not incoherent, but was able to carry on to some extent her social relations, subject, however, to sudden interruptions in these owing to inability to control her attention for any considerable time upon any subject not actually connected with the physical conditions which were abnormal and persistent. Owing to the fact that she was not utterly deprived of intelligence, but was able to answer many questions in a rational manner, she was voted by her relations to be "simply hysterical," and she had in consequence rather a hard time of it, for she was kept at home in social conditions for which she was quite unfitted, and her "obstinacy" and "wickedness" increased. At length better counsels prevailed, and she was sent away from home under the care of a medical man, and was placed in conditions where her physical changes were properly attended to. These consisted in the re-establishment of regular menstruation, and in the recognition that

she was ill, and thus obtaining for her aid in the adoption of rest, diet, occupation, and other strictly curative measures. After ten months of treatment she recovered both in mental and in bodily condition, but she would certainly have got well earlier if the true nature of the disorder had been accepted by the parents, who obstinately refused to believe that there was anything the matter, and that it was all "nonsense and imagination."

And so it is with many of these cases, mostly of young people, who are thought to be fanciful, obstinate, undutiful, and even wicked. They are sent to schools and educated on a stock system which is often quite inadequate to the real necessities of the pupil; after which they return home, to find no occupation beyond the pursuit of a tedious round of social functions; then comes the intervention of a love affair which may or may not suit the aspirations of the family, but which is always a source of anxiety and tension owing to the trammelled conditions by which it is fenced round and carried on in accordance with the necessities of social etiquette. Small wonder is it, then, that the circle of ideas becomes narrowed into the dangerous ring of self-consciousness, which is nothing less than stress thrown beyond the bearing-point upon a certain part of the nervous system.

It would seem to be the most natural thing in the world that young people who are suffering should wish to evoke the attention and sympathy of their friends, and if this is to be the local sign of hysteria it is difficult to see the use of such psychological

factors as emotion and feeling, the validity of which is for the very purpose of attracting notice to what may be dangerous mental states.

The real process is that the attention of the onlooker is unintentionally arrested by the anomalous condition of the subject, who is either not so ill as to deny herself the refuge to be found in the sympathy of those upon whom she has been taught to rely, or else is too ill to care whether she gets that sympathy or not. To postulate that the unrestrained desire to attract attention and sympathy is a nervous disease is equivalent to saying that self-gratification, conceit, the pleasure of giving trouble, and of causing anxiety to others, constitute a bundle of impulses which are foreign to the true nature of the patient. If they are impulses and cannot be restrained, they come within the category of a true disease which must have an equivalent organic accompaniment; if they are emotional states which are deliberately encouraged and voluntarily completed in action toward others, they are not of necessity a nervous disease, but merely an exhibition of a trend of mind which, however opposed to the wishes of friends, is not for that reason abnormal.

To acknowledge that the morbid anatomy of hysteria is not known is not to confess that there is such a condition, and that there are no morbid anatomical conditions. We should rather declare that such a "disease" is impossible, and we should never forget that much suffering and injustice have been inflicted upon many people whose symptoms were during life treated as imaginary and fanciful, but

were found after death to have had a very real accompaniment of organic impairment. In my experience no persons would be so gladly relieved of the condition which causes so much curiosity and anxiety to others as the patients who suffer most of all.

There are two signs which are usually thought to be especially connected with the hysterical state, viz. laughter and tears, which are outward signs of great emotional tension, not caused by sympathy, are involuntary, and much deprecated by the unfortunate exhibitor, who is often placed in a ridiculous position from which he or she would gladly escape. They may occur under such circumstances as the following: A young person is suddenly placed in circumstances involving stress and perhaps danger. The situation is faced, and the mind and body are braced up to the occasion, with the result that the person goes safely through the ordeal, having exhibited an amount of courage and resource which probably astonished the bystanders, and evoked their approbation. The forced draught under which the person has been working and the amount of energy expended show themselves afterwards in a mental and physical collapse, in unrestrainable peals of laughter or in floods of tears, with a choking sensation in the neighbourhood of the thyroid body, and the individual is said to be "hysterical." Of the actual condition of the centres we cannot be said to have any real knowledge, because we cannot say what the physiological or pathological effects of stress are. We can only surmise that the situation is critical to the vitality of the structures, as well it may be if we

consider the activity and rapidity with which all sorts of ideas and associations rush through consciousness, and the vast amount of emotional tone called suddenly into painful prominence. At times the tissues seem unable to bear the strain of the position thrust upon them and they perish in the cataclysm of overwhelming burden, never perhaps to function again; or if the breaking-strain has not been reached we must assume that the parts recover their normal state amidst a gradual dispersal in supplementary directions of the effects of the storm. That there are actual structural and chemical changes is evident on considering that a permanent epilepsy may be the result of the excitement; or that jaundice, diabetes, and vomiting may testify to a disarranged metabolism. The laughter of the hysteric has no root in the sense of humour; it is probably the best imaginable way of relieving the congestion of the circulation through the pulmonary system brought about by the suspension of respiration during the prolonged attention of the main event, and it has no more to do with any set intention or purpose on the part of the subject than the movement of the piston has with the volition of the steam.

The physiology of weeping is more obscure. This, however, is certain, that from observation we conclude that though to weep is not necessarily to hold out signals of distress or to excite commiseration, it is essentially connected with mental processes. Physical pain of the most acute kind does not draw tears, but the unexpected discovery of a person in silent weeping points to the detection of a hitherto

unsuspected state of mind. At the theatre it is not uncommon to see people weeping who are moved to it, not by the sad or painful nature of the emotions aroused, but simply as a relief to the tension aroused by powerful action. Emotional stress falls especially heavy upon the glandular system, and it is probable that tears are only one of a general system of glandular secretion, but they attract the chief attention by their objective prominence.

It is doing too much honour to the knowledge of the hysterical to credit them with the capability of the voluntary assumption of the complicated clinical groupings of real disease, the truth being that an organic change is at the root of the condition, and that the symptomatology is as much a compelled one as is that of a fever or a broken limb.

CHAPTER IX

SURGERY AND INSANITY

THE operation of trephining the skull in some forms of insanity has now been some time before the profession, and the result may be generally stated, that it affords relief, probably extends the duration of life, but in no reported case except that at the Brookwood Asylum has it led to the cure of the disease. During the last few years the subject has been well ventilated, and there has been perfect honesty towards the profession in dealing with the new line of treatment. The cases selected appear to have been typical in their development—so far advanced, indeed, that whilst the diagnosis of the disease has been beyond suspicion, the mischief has been so extensive that it was probably asking too much of the operation to expect a cure. The operation was first proposed in general paralysis ; but the object of this chapter is to narrate a case of another form of insanity treated in like manner, and to indicate the possibility of a still more extended use of it.

Admitting that the pathology of general paralysis is obscure as regards the order in which the struc-

tures are attacked, we have yet enough to go upon for the relief of symptoms in regarding cell-destruction, excess of fluid, and a thickened and tortuous state of the capillary vessels as constant factors that have to be reckoned with. Whether the excess of fluid is primary or secondary (and I believe that it may be both), whether the vessels are varicose and aneurysmal in consequence of a primary affection of the nerve-cells, or whether the lesion begins first in the vessels themselves, the fact remains that the pressure is there, and that as long as it exists atrophy and distortion must go on. The distinct signs of pressure are pain, bulging, spurting of fluid when the tension is relaxed, and the flattening of convolutions; and all familiar with the treatment of general paralysis know how beneficial is the medical treatment directed to the lowering of tension, such as bleeding, free use of purgatives, digitalis, etc; whilst, on the other hand, excitement, stimulants, too long continued exercise, cause increased pressure and aggravate the disorder.

If the operation is to have any development, the direction will apparently lie in taking earlier measures, and perhaps in more extensive area of removal of bone. It is indeed difficult to see what other steps can be taken in a great number of cases, if once it is conceded that pressure is the evil to be got rid of. The mass of dementia with which we are confronted as the result of uncured brain disease speaks to the inefficacy of the usual methods of treatment; on the other hand, the operation itself, though apparently free from risk when carefully performed,

is yet not one to be lightly undertaken, for it requires special operative facility, and is apt to be long and tedious. The main difficulty is in the selection of cases, and here we are at once brought face to face with one of the most difficult questions in lunacy—that of prognosis. One of the main objections to the operation is that unexpected recoveries are not infrequent, and that therefore any improvement that has been found in the history of related cases was not owing to the operation. Such reasoning is not quite logical, because, so far as can be seen, doubtful cases have not been submitted to this treatment; but it must be allowed that we are often deceived, and that whilst we are generally correct in the forecast, still we are oftener than can be wished either absolutely wrong, or so doubtful as to be unable to speak with any certainty. In insanity it is so often the unexpected that occurs that we take precautions that are really not needed, and we rely upon an apparent freedom from dangerous impulses to grant liberty of action when the result may show our judgment to have been in error. So much has yet to be done in our knowledge of the physical state of the brain in insane conditions, that it seems premature to expect that so apparently formidable a treatment as surgical interference shall be resorted to except in extremities, though in hospitals for the treatment of “nervous disorders” much more is done in this direction. That we cannot now forecast the issue of a train of symptoms is due to our ignorance of the laws of thought. There must be some definite reason, governed by laws, why, of two patients

who show apparently the same symptoms, one is dangerous to himself and the other is not; why, of two persons who manifest delusions of persecution, one becomes homicidal and the other recovers. A certain amount of experience brought to bear on a rigid clinical examination enables us to make an accurate forecast in the majority of instances, but some neglected sequence leads us to blunder where we seemed most sure; and though mistakes are less numerous than formerly, and "idiosyncrasies" less frequently on the tongue, there is yet a vast amount of "meteorological uncertainty" to be got rid of before we can define mental aberration with the certainty of astronomical predictions. Let me give one or two instances to show how uncertain is our present knowledge of existing conditions.

There is a patient under notice now in a most distressing state of melancholic excitement, reduced to a skeleton, constantly begging to be "put in a hole and buried," and this man never attempts his own destruction; though, beyond expressing the confidence that he is not suicidal, we cannot give any scientific reason why he is not so. We do not like to suggest to him the question why he does not attempt to injure himself; but ought we not to be able to give the reason why he prefers to live on in the hope that others will do what he does not himself care to do? Take, again, cases of recurrent insanity. Everyone knows that in the intervals of excitement or of depression these persons may be perfectly well, yet there is considerable mystery as to the order of events when a recurrence begins.

Does a certain part of the brain break down in function at definite periods owing to "instability" of the nervous elements, or is the attack due to a vascular change acting upon the nerve-cells and so affecting their nutrition? From the fact of exact similarity in the on-coming and progress of the recurrent attack we can gain no knowledge except that similar groups of cells are affected each time the patient is attacked—a phenomenon consistent with either hypothesis, but on the whole, to my mind at least, more easily explained by the theory which attributes the primary lesion to the nerve-elements. There are many points of resemblance between these attacks of recurrent insanity and epilepsy; for in both there is a period of mental alteration, usually of a very definite kind, so that those familiar with the ordinary life of the patient can say either that he is "going off again," or that he is going to have a fit. In both the premonitory symptoms may be exclusively mental, or exclusively motor, or (more generally) mixed; in both there may be unconsciousness of what has occurred when reason is restored; in both a definite area of brain-tissue appears to be affected, and in both the reflex life seems particularly active; but the difficulty remains of saying where the particularly affected cells lie, and treatment is directed at present chiefly to using our already acquired knowledge from past attacks to assist us in present circumstances. The surgical treatment of epilepsy is, we are told, being extensively undertaken abroad (not alluding, of course, to merely traumatic cases), with good results;

and there appears to be no reason why, with more perfected diagnosis of locality, we should not also attempt the surgical treatment of recurrent insanity, since no more practicable way of attaining the diseased structure seems possible.

The true pathology, *i. e.* the morbid physiology of insanity, is so far imperfect in that we cannot say what is the particular route that an attack will take, partly because the education of the individual is so different in any two cases, and partly because the qualities of the tissue seem so dissimilar; but there can be little doubt that there is a very close bond of fundamental similarity in all manifestations of brain disease, and he is the most successful interpreter of the disease who can disregard the prominent superficialities and steadfastly keep in view the part attacked. Thus, two persons exposed to the same cause have attacks of insanity differing in their manifestations, the one showing maniacal symptoms, the other those of a depressed form. No one doubts that (other things being equal, such as absence of hereditary taint, depraved habits, etc.) the structural lesions are, in the two cases, in corresponding parts, and hence there is no reason why the same curative procedure might not be adopted. A great deal has been made of the large delusions of "general paralysis" as being an essential feature of the disease, but it requires very little acquaintance with insanity to see that these "large" delusions are only accidental: that numbers of persons go through attacks of paralytic insanity without any exhibition of "large" delusions, and that equally "large"

delusions may be found in patients whom no one would think of calling paralytic in any form. The truth is that the presence of delusions of any particular kind is accidental; it depends on the affection of a particular group of cells that have been from previous education brought into connection, and therefore when a "general paralytic" talks of his millions and his superlative powers, it means nothing more than when the melancholy person bemoans his state of original sin and the cruel fate that he thinks is awaiting him. The next day the two may change places, and the man who had powers incomprehensible may think himself the most abject pauper. It is more than doubtful if the person who says that he is possessed of such immense wealth and enormous power really thinks himself to be so; he most likely does not care to trouble himself over the matter, and indeed is not truly conscious of what he is saying, and this is shown by the after-statements of those who have at one time had delusions of this sort, but have recovered. To persons of sound mind it seems incomprehensible how an insane person can utter large delusions, and believe in them; but if we recognise that a delusion is merely the expressed constant irritation of cells, due either to inflammatory action, pressure, altered physico-chemical function, or any other of the numerous causes of irritation that may be easily enumerated, there is no difficulty in the matter at all, and we may view delusions as simply due to irregular action of groups of cells, at one time those associated with wealth and power, at another those

expressive of misery and pain, and again others of no particular tendency one way or the other.

At present we know so little of cell-action that we cannot say if the same cell may have impressed upon it memories of opposites, such as, *e. g.*, of wealth and poverty, of light and darkness, or whether a totally new impression would require for its reception a new cell. There must be many cells if this last statement is true that are never called into action during a lifetime ; but the most minute investigation fails to show any difference between cells that must be in constant use and those that are rarely called upon. Take the question of fatigue. There is a female patient under notice who for years has made, without intermission during the day, certain definite movements implying that she is constantly thinking of weaving a fabric. She must have made millions of movements in this direction, and the central source of these movements must be very limited in its area ; but I do not expect to find *post mortem* any special development of any part of a convolution ; nor, it is much to be feared, would any specially expert pathologist find any difference pointing to excess of function in any particular group of cells. One would expect that such a continuous manifestation of function would lead to a tired condition, and gradually to atrophy ; but such is not the case, and the movements are just as vigorous at the end of the day as at the beginning. No doubt the explanation of this would be that the motion is involuntary, and therefore exhaustion is not felt. We all know how tedious it is to learn a new movement, and how soon exhaustion and

fatigue make themselves manifest when new work is being done ; also how the new object, once attained, goes on without causing weariness ; but it is difficult to understand how the “ being accustomed ” to a thing makes the processes of wear and repair balance each other so nicely, and by apparently a self-regulating action. In acute insanity, where the same round of ideas is most vigorously proclaimed, fatigue seems unknown, but a voluntary declamation to an equal extent would be attended by extreme prostration ; and the same may be said of those persons in a state of chronic insanity who repeat the same phrases and perform the same acts for years without apparently suffering in any way. But take a person suffering from “ nervous exhaustion ” or neurasthenia, produced either by alcoholic or sexual excess, and we find him unable to perform a sustained voluntary movement for any considerable time. Let him become insane, and the difficulty disappears ; the bridge over which he formerly passed with fear and trembling he now passes with perfect confidence ; whereas before he could not bear to sit out a service in church he now cannot be stopped in his religious attendance—in his actual insanity he is less “ nervous ” than when in possession of his senses. It seems impossible to grasp the difference between these two conditions or to attempt an explanation by any results that we have hitherto gained from morbid anatomy. It is just this controlling power of the will (whatever that may be) that we desire to see re-established ; we look for the reappearance of fatigue, knowing that then rest will be of service

and the normal relationship between the two re-established, for fatigue is physiological, and one of the best signs of healthy action.

Among the causes of insanity, none is perhaps so frequent and important as "worry," which may be defined as long-continued conscious cell-action, eventuating in insanity, when, curiously enough, the fatigue of it seems to vanish. We see the insane, apparently under the most miserable conditions of life, irritated beyond measure by the refusal to grant their wishes or to agree with their statements; and yet this condition, which would be insupportable to a sane person, appears to cause neither worry nor fatigue, for the subjects of these ideas will occupy themselves, and even perform new work, with a zeal impossible to imagine if they really felt what they describe; moreover, they will joke and laugh even when spoken to about these depressing matters, as if two processes—one of conscious and the other of unconscious cerebration—were running side by side in the brain. Hence it is that many insane persons are quite able to go on quietly and transact ordinary business, I will go so far as to say even on subjects connected with their delusions. For instance, I have a patient now under care who says that he is extremely anxious to die, and is constantly asking to be put away, but he resents anything that causes him inconvenience or possible injury, and there is no doubt that what he insanely asks for does not represent the sane part of mind which he is still able to exercise, and it is probably owing to the still existing power of inhibition that he does not injure

himself ; should, unfortunately, this remaining power of inhibition become fatigued, the worst results might be anticipated.

Mesmerists and hypnotists have found great difficulty in dealing with the insane, and the reason seems to be that the brain of a thoroughly insane person is not subject to fatigue, as is that of an ordinary individual. These professors tell us that they cannot "engage" the attention of the lunatic. Certainly they cannot, because when the patient is thoroughly insane fatigue is impossible, and it is only when there are intervals of freedom from excitement (as in many epileptics), or in some with delusions of a very circumscribed type, that the condition of mesmerism can be induced. We can, therefore, easily understand why people of sound mind should be more susceptible to external influences than the insane, and it would seem that very great power of resisting fatigue is most manifest where there is least absolute consciousness. If a hypnotist is able to get an insane person to believe in his delusions as such, he will then have a chance of influencing him, because the patient will, in fact, be then on the road to that condition when fatigue is possible. In persons whose brains have been overtaxed, whether by overwork or by alcohol, or by another cause, mental exertion causes great muscular weakness, just as does excitement or shock, and this is at times carried so far as to produce actual paralysis of motion—a condition much resembling that caused by mesmerists, and one indicative of rapid exhaustion ; but insane persons do not seem subject to this condition, and

motor enfeeblement as a result of great mental agitation is unknown.

At present, we seem to have no means of producing exhaustion, and experience teaches us how useless narcotics are in the treatment of acute insanity. What a narcotic seems to do is simply to affect that part of the brain which is not affected by the disease—a proceeding that may be useful in masking some particular unpleasant symptoms (such as destructiveness or noise), but of no value in really affecting the insane reflex mental processes. Here hypnotism and hypnotics seem equally useless, in that they do not seem to affect diseased tissues. It is, then, no sign of congenital weakness that a person should be subject to mesmeric influence, nor does it necessarily show force of character or original strength and quality of fibre—perhaps the contrary is rather the case. How is it, then, that mesmerists often fail to produce their effects at first, but succeed after repeated efforts, as they say is the case? For a repeated subjection of certain cells to a process of education should render them more enduring and less prone to fatigue; in fact, the mesmerist's first attempt ought to be the successful one, if he is to be successful at all, and each failure ought to strengthen the power of resistance. I believe such would be the case if the individual really resisted the first or subsequent attempts, but it is because in the subsequent sittings he really does put himself more and more in the conditions in which exhaustion is produced. Perhaps at first he does not comply with the conditions which the experimenter desires,

in which case he is just like the insane person who does not yield attention, and in him therefore exhaustion is impossible, and it is not until he has learnt to place himself in the condition that no insane person can be brought to do—that of conscious subjection—that his subordination can be completed. Ideo-motor impairment (amounting at times almost to paralysis) is the most common form of “neurasthenia,” and appears to be a further development of ordinary fatigue. It may be noticed in people who suffer from this form of exhaustion that when placed in certain conditions, and in these only, their muscular power fails. Thus a person may at one time be seized with giddiness or weakness or faintness in crossing over a bridge or in church. Ever afterwards the idea of crossing the bridge is so painful that he is unable to do it, though he can walk miles in another direction with ease and vigour, and could attend a protracted performance in a theatre or listen to a long discussion in a public hall, when to stay so long in church would be impossible. Let him once, however, have a renewal of his symptoms in fresh circumstances, and these would have to be added to the places to be avoided.

To most people unaccustomed to the practice it would be very dangerous to be placed suddenly on an ice-slope, and it is only when they are used to it, *i. e.* when from previous experience of their safety in similar conditions they cease to think about the danger of falling, or, in other words, when cell-fatigue is impossible, that they can stay in comfort. Hence the safety of the somnambulist, of the insane

person, and of the hypnotised. It would seem that courage is, then, either an ignorance of danger or a consciousness of having previously passed through similar conditions with safety ; and the result of a stimulant in enabling people to pass through ordeals would point to vascular weakness as the source of the trouble, and the temporary check of sufficient blood-supply as the factor in sudden fatigue or "neurasthenia." In people with congenitally weak vascular power, or in those who suffer from capillary dilatation as a consequence of over-stimulation, the condition would seem to be incurable ; and I have noticed clinically that in the latter class the feeling once established is more or less present through the lifetime of the individual. If, then, vascular congestion is at the root of the ailment, the result must be atrophy of the cell and effusion of fluid. It cannot be said that under these circumstances there is necessarily an increase in pressure, but the presence of fluid must preserve the balance of the diseased state, and as such is probably an evil. That brain-action may go on without external modification to the casual observer (though palpable enough to the subject himself), even when a considerable amount of fluid is present, is certain, and there is little doubt that scores of people are now going about, in a way carrying on their social and business functions, whose brains are overcharged with water, the result of capillary inertness and cell-fatigue. But is the fluid found in and about the brain all compensatory ? For the most part it probably is, but apparently not so altogether, and if secreted in this way, must act so

as to cause pressure, and therefore atrophy of the cell-structure. But if secreted, where does it come from? There seems every indication to treat vascular changes as the primary ones in these "nerve attacks"; but surely the cells may themselves be the first to begin, and it is more in consonance with clinical experience that this should be so. Fatigue is felt when the balance between expenditure and supply is upset, and surely the vascular service should be at the command of the cell, not the other way. The phenomena of recurrent insanity point to this, as already explained, in addition to which there is the evidence from vascular sedatives, which may reduce the circulation and pressure, but will not calm the excitement, whilst sleep or rest achieves both results. The fluid found normally in and about the brain is a secretion, not merely an exudation to fill space. Why should not this, under conditions of brain-irritation, be increased? It is so in hydrocephalus, and no one doubts the pressure there. We know from Bevan Lewis' researches that in disease the lymphatic system is much developed in extent, and a general review of the conditions points to the conclusion that where fluid exists in excess there are two sources, one being the capillary system itself, the other the original source of the serous exudation; the former probably is merely compensatory, the latter is the one causing pressure. As long as this pressure-fluid is present there must be the greatest danger to the patient, for no chance is given to the injured parts to return to their original relations; they cannot (to use the French word) *fonctionner*,

and hence arise irritation, dementia, loss of memory, head-ache, etc. The influence for good of purgatives has been long recognised. Anything, indeed, which reduces the quantity of blood is of advantage, blisters and blood-letting being at times the most effectual. It would appear, then, that Mr. Harrison Cripps' suggestion of providing a new lymphatic system has much to recommend it, and that it is not so extravagant an idea as some recent writers have maintained. The logical conclusion from the above is rather a startling one, viz., that we must recognise much earlier than we do the importance of fluid-pressure, and adopt apparently the only means of getting rid of it.

Though perhaps impossible to demonstrate, it can fairly be assumed that the voluntary inception of a new mental process establishes more intimate relations between the cell and its vascular connections, the result being growth of the cell and the gradual acquisition of power to withstand fatigue; and yet there is a manifest difference in the effect produced by the two forms above mentioned of increased vascular action. When the circulation is quickened by direct stimulants, such as alcohol, the cells are, as it were, excited against their will, they receive rude shocks of impulse for which there is no provision, and the chemical changes must be of an entirely different order from what happens when, the cell calling for an increased supply, a selection of material is made in quantity exactly adapted to the want. Hence the philosopher who uses his brain-power in the manner originally intended is saved from the

dislocation of natural track and the brutal alteration of quiet growth that must happen in him whose brain-cells are pushed and harried about by a flood of material and an energy not at the time required. It must, however, be confessed that alcohol has as well a direct action on the brain-cells as on the circulation, though probably the latter is the greater. It has often seemed to me as if the cells at first resented this increased vascular action, and only took on greater display after protracted stimulation. Certain it is that having once been set going, they do not so easily settle down as when the stimulus begins in themselves. The inco-ordinate, or rather semi-paralysed state, of the drunkard's muscles is akin to the fatigue (ideo-motor) of persons whose central nervous system is probably in a minor condition of increased serous engorgement, from degenerative changes set up by some of the causes mentioned. The young man may, after severe mental work, feel tired, but muscular exercise restores him; he may go through sudden excitement, but there is no shaking of the hand or desire to sit down. The older man, who uses perhaps the same set of cells, finds that mental fatigue carries muscular weakness with it, and his remedy is the arm-chair, and not the running-path. It might be urged (though I do not think the argument quite fair) that exercise, by increasing the rapidity of the circulation, ought to have the effect on the brain-cells which has been described, viz., that of increasing their action and energy. Though not to the extent of that caused by alcoholic stimulus, I yet think that exercise does

produce such an effect to a limited extent; but inasmuch as the effect ceases with the muscular effort, the parts soon quiet down and no permanent damage is caused.

We have referred already to the signs of pressure observed after opening the skull, but it is important to be able to diagnose them during the course of disease. Headache would appear to be one of the most prominent signs, although not constant. It must, however, exist oftener than patients confess, for the insane are notably bad at describing symptoms, and very often their statements cannot be relied on. Looking at the thickening of tissue, the evidences of congestion, the arterial tension, and at times the fusion of parts, it is impossible to avoid the conclusion that pain must be present in the majority of cases. Another symptom is great motor restlessness and tension, and to this may be ascribed the muscular rigidity often seen in acute insanity, whether of the maniacal or melancholic variety, in general paralysis, in the fury of epilepsy, in recurrent insanity, etc. Instead of restlessness there may be acute stupor as the result of pressure, and at present it seems impossible to say why in one case restlessness, in another stupor, should result; but there is no doubt that, whether as primary cause or not, pressure does exist. Unfortunately, there is no exact pressure-gauge by which one can tell the exact amount going on inside the skull until we have opened it; but judging from *post-mortem* appearances and from what is seen when the skull is opened during life, it is difficult to come to any

other conclusion than that not only does pressure exist, but that it is the cause of permanent destruction of tissue.

Seeing, then, that in the greater portion of cases of insanity the morbid process is much the same, that varieties in form appear to depend on the particular education of the individual and the groups of cells affected, that the pathological appearances are very similar in all advanced cases of insanity, and that our present knowledge is so limited that only in the most vague way can we associate groups of cells with ideas, and therefore cannot apply remedies to a particular part, I thought it proper to try the effect of surgical measures upon an ordinary case of acute insanity in its early stage, one associated with extreme violence and restlessness, and where medical remedies of all kinds had been tried in vain. The particulars of this case are as follows: Arthur B—, aged 28 years, a lighterman, was admitted on October 24th, 1891, having previously been in a private asylum for four months. On admission he was in a restless and deluded state, which gradually became more pronounced, and on November 19th, about three weeks after coming in, he was very violent and tried to take away the attendant's keys. He was flushed, noisy, and impulsive, and the muscles of his extremities were in a very tense condition, so that his appearance was that of a man always on the defensive. About this time he refused food, and had to be fed artificially. All sorts of remedies were tried, but without success. We gave him subcutaneous injections of atropine, but though his

pupils were dilated, there was no improvement in his resistiveness and muscular tension. Conium was also tried, but without result. He complained of pain in his head and "vibration," and I concluded that this, as well as the continuous muscular spasm, was due to some superficial irritant, most probably fluid. As the patient's condition was becoming critical, likely to end either in death or dementia, I determined (with the consent of his friends) to make an exploratory opening, with the view of enlarging it if necessary. Mr. Harrison Cripps was kind enough to perform the operation, which was successfully carried out on January 24th, three months after the patient's admission. It must be borne in mind that the circumstances were not too favourable for operating. The patient was violent and resistive, and not in good general health, from having had to be fed artificially, but we found afterwards no difficulty in dealing with him, and from this point of view the case was instructive, as showing that serious surgical measures may be taken upon even troublesome and restless patients. As no special localisation of disease could be marked out, the spot chosen was practically the most convenient one, viz., over the upper third of the convolutions bounding the fissure of Rolando, and on the right side. On making the first trephine hole, and removing the disc of bone, the parts underneath bulged up into the opening; another trephine hole was then made, and the intervening bone removed by forceps, so that an opening of at least two inches long by three quarters of an inch wide was obtained. There was no pulsation,

but the brain and membrane bulged so much as to be on a level with the outer table of bone. The dura mater seemed to be slightly congested and rather dull in appearance, but otherwise normal. When incised to the extent of two inches and taken away, a considerable quantity of fluid escaped. It is difficult to be exact as to the quantity that escaped, but it is put down in the case-book as about three drachms, besides the oozing, which went on continuously, as long as the wound was open; but the most notable result was that with the escape of fluid pulsation of the brain returned. The dura mater and the pia were both removed over the surface of brain exposed, and the wound was closed by simply bringing down the flap of skin over it, a small drainage-tube being inserted. When examined three days after operation, the wound was found to have healed by first intention, and it may be stated here once for all that surgically the recovery in a few days was perfect.

The next day after operation he was much less resistive, quieter, and more intelligent, and took food fairly well. At first the mental improvement was marked, though soon the resistiveness came on again, and he became troublesome. It was, however, easier to manage him than before, and whereas before it was necessary to keep him in a single room, he was now treated in bed in the ward, and though resistive, was much less so than formerly; he was also less impulsive, and more reasonable. So matters went on, until there occurred what seems to be universal after operation in these cases—the

gradual closure of the opening by fibrous membrane, and almost complete absence of pulsation. From previous experience of *post-mortem* results in these cases, I am inclined to think that union had taken place between this new membrane and the upper part of the brain, and that probably for this reason pulsation was so little felt; so that if a puncture were now made through the membrane, it would go directly into brain substance. Certain it is that the membrane is very firm and tense, and being inelastic, acts like the bone would have done. Had the quantity of bone removed been greater, there would have been more play in the membrane; and I am confirmed in this conclusion by another case here of a young man who was trephined, with great relief, for traumatic epilepsy. Here, the quantity of bone removed was very considerable, and though fibrous membrane has formed to fill the gap (which was in the frontal region), normal pulsation can still be seen. In the case of this man (the epileptic) there was no bulging of the brain-substance into the wound, nor any escape of serum on opening the membranes. It is more than likely that in the first case serum has again accumulated, minimising the pulsation of the brain, and prevented from declaring itself by bulging because of the deep adhesions above referred to.

To continue the review of the mental condition, the patient in the course of a month became again almost as bad as ever, requiring two attendants to accompany him when out walking, but his bodily state improved a little, and he was certainly more

coherent. During June and July he became quieter in all respects, and now (end of October) he walks in the fields with an attendant quietly, can answer questions coherently, takes food well, and has gained flesh. He has, however, developed a hæmatoma auris on the left side, and much advancement is scarcely now to be hoped for. Though nothing beyond conjecture can be made, I think that the operation saved his life, being performed at a critical period of the disease. Here is a man restless, refusing food and requiring artificial feeding, getting no sleep, always standing at the door of his room and struggling to get out, so incoherent and unintelligible that nothing can be made of him, refusing all kinds of medical treatment and rapidly emaciating, who immediately after operation becomes quieter, and eventually, though not cured, becomes capable of holding a conversation, and can be trusted to walk alone, who sleeps well, and even reads.

That the operation will ever become more than an occasional one is doubtful ; it takes much time, it requires special surgical skill, and the idea of it is formidable. At best it seems only palliative, at any rate in its present development, and until we have some other means of promoting the discharge of fluid continuously, a permanent good result is not to be expected. Such at least appears to be the result of all our cases, and of others that have been elsewhere treated. Something more has yet to be done in putting the question of pressure beyond the doubt of the sceptical. This we hope to be able to prove by experiment to be certain, for it is a cardinal point

in the operative treatment of brain disease, and must have the fullest investigation. Recent surgery has proved how tolerant the brain is of interference, and it may be fairly prognosticated that with a better knowledge of those localities specially affected in insanity of different kinds, the application of direct interference will be of service at present beyond our dreams.

CHAPTER X

THE SURGICAL TREATMENT OF DELUSIONAL INSANITY BASED UPON ITS PHYSIOLOGICAL STUDY

THE manifestation of delusions is so striking a proof of aberration of mind that we seem tempted to inquire if the study of them will in any degree help us to an elucidation of the actual physical change which must either be the cause, or at any rate the accompaniment, of them.

Just as we may study the movements of a piece of mechanism, and by consideration of them work back, as it were, to an understanding of the structure, so may we not possibly inquire into and succeed in postulating certain physical arrangements, more especially as it does not seem likely that by examining the structure we can explain the defects themselves of the resultant or concomitant action?

To argue from effect to cause has before now led to striking results; it is, indeed, to us as physicians the usual way of working, but with the experimental observer the first thing to do is to modify the conditions which we take to be the proximate cause, and then to record changes in the effect. Why cannot we do the same with this subject of mental

physiology? Because to experiment under natural conditions is rarely possible, and pathology has not hitherto helped us much. Experiments upon animals are useless, because, though we can obtain motor effects, we are not able to learn anything about ideas.

If, after deliberation, an act of "will" results, are the cells which have been concerned in the deliberative process the very ones which give the motor impulse? Or is this influence communicated to others which bring about the direct motor result? Are there cells which are susceptible to impress, to change, in a certain way only, or can they be modified differently according to the nature of the presentation, *i. e.* is their receptivity general or particular?

After a group of cells and processes has been impressed in a certain manner (one is bound to use mechanical expressions in discussing this subject), is that group bound to energise in the same manner under recurrent stimuli, or is it susceptible of modification?

We must ignore the objection that has been made (Wundt) that there are not enough cells in the brain for each to have its own *métier*, because it would seem from observation that the material of the brain is never used up, even in a long and active lifetime; there is always present the potentiality of more capital for use than has ever been called upon. Does a man whose brain remains sound ever get to the limit of his knowledge? He is always able to go on acquiring startling new projects, receiving impressions of a kind quite different in quality from any hitherto presented.

If we go on the theory of psycho-physical parallelism as being the most acceptable of all our endeavours to understand the connection between psychical and physical processes, we seem bound to acknowledge that some change, some physical alteration, must occur in cells that are called upon to act in obedience to stimuli. Of the nature of this change we know nothing, whether it consists of a rearrangement of particles, a molecular change, or of one of a chemical nature ; but we can scarcely conceive that the condition physically of a brain that has been stimulated is the same, *quâ* material static remanet, as one that has never been brought under external influences. The microscope does not enlighten us, nor have any experimental facts as yet thrown light upon any material change either in nerve cells or fibres that we can associate with the objective display of internal mechanism.

Let us, then, analyse what we may suppose to occur in a psychical content, say the idea of wealth.

There have been more or less frequently and intensely stimuli of sight, touch, and hearing, of a mixed but still definite character, and associated with these the word "wealth," which is the abstract correlate of all these various impressions. Whenever the word "wealth" is brought into consciousness and kept there, there is a revival of the various sense impressions that have, at one time or other, contributed to the idea, be it money, land, size in any direction, or whatever else has been the predominant agent in the process of abstraction ; and we can scarcely conceive other than that the same parts are

concerned in the revival of the image as were at first concerned with its formation.

In accordance with what we see of ordinary healthy function, the structures concerned with this particular consciousness pass into the background when the stimulus is removed, and do not again obtrude themselves except on occasion.

But suppose now that from disease, such as may be brought on by over-functioning, from an inflammatory process, from an altered composition of blood or what not, some temporary or permanent change is wrought upon the tissue of an irritant nature; it is but natural to conclude that the temporary functioning in response to stimuli is changed into a continuous one by the abnormal local conditions, and that so long as the irritable condition lasts so long will the impress of the concerned structures continue to assert itself in the absence of external sense stimulation; and inasmuch as consciousness is limited by structural states at the moment existing, so long may the individual be out of harmony with his environment, because he cannot escape from the tyranny of an ever-present possession.

The man who is in an ever-present worry because of straightened circumstances, of some moral or social lapse that he has committed, is never free from the damnable constancy of the persistent action of his over-acting cells until other stimuli set up relieving processes in other centres and permit functional rest to a jaded tissue.

This I take to be the condition of things in the insane, and with it must be included the emotional

tone that accompanies the delusion. Explain it as we may, there is to be acknowledged a pleasurable feeling accompanying ideas of the satisfying order ; a painful feeling tacked on to, or part of, those of a dissatisfying kind ; and these feeling-accompaniments we seem to be incapable of doing more than note ; sufficient it is for us at the moment that they must always be taken into account as part of the result of a functioning element.

So with the man who suffers from delusions of a depressed kind. What we must suppose is that certain cells and connections have been impressed (there is no other word so convenient) in a definite manner ; they have been tuned to answer to vibrations of a certain sort, and have their corresponding emotional tone ; and if by the advent of a disease-process they become temporarily or permanently involved, so long will excessive functioning in a special direction go on.

Whether any cell and its processes are able to receive stimuli of polar kinds and to exhibit corresponding emotional states is quite unknown ; as is also whether a cell which has once been set to vibrate in one direction can receive impulses of another sort—whether, in fact, the higher structures are subject to the laws of local signature somewhat analogous to the hot and cold points in the skin.

An explanation of this sort seems too simple for so complicated a structure, but in our present inability to comprehend purely psychical processes we seem to be driven to material explanations.

It may be objected that many insane persons are

not always in the presence of their delusions, as they should be if their new self is dependent upon a local material change. I believe, however, that they are always in the presence of their new conditions, just as the sane man is always in his own conscious being; and it is quite in accordance with what we clinically know of consciousness that habit should render the insane man less attentive to, and less demonstrative of, his new state, just as it does the ordinary sane person.

Disease of the brain is never universal, and along with the morbid tracts there must be many untouched centres able to function more or less normally; and so we never see a complete lunatic; some residual product is invariably to be detected which shows that "denudation" has only been partial. That motor changes are generally seen in states of mania or melancholia is what we should expect, because sensory and motor processes are so bound together that an alteration in one is sure to affect the other. The man whose brain is tired by over-stimulation loses perfect motor control (or, at any rate, has to employ effort to accomplish what before was a reflex), even though his motor side may have been quite subordinately engaged. One very frequent effect of mental fatigue is that the walking co-ordination loses its purely reflex type, and the subject has to pay attention to his steps; so with explosive conditions, such as anger or strain, not only does the person feel unable to walk, but he is also unable to talk without tremor, or to write without shakiness.

No doubt a good deal of this may be attributed to circulatory impairment, but not all; because in

the absence of emotion in long-sustained work of a neutral-toned character we may notice the motor prominence; while in the decided emotion-toned ideational states of mania and melancholia the muscular affection is apparent to anyone.

The above reference to local signature is worthy of a little more consideration.

If, as Külpe says, local signs are a specific qualitative colouring, if they are the physiological peculiarities of peripheral excitation, so that every impression is referred to a distinct locality (and this appears to be a much simpler way of explaining localisation phenomena than by introducing "association" to explain them), then why may we not extend Külpe's theory to the higher centres, and say that every idea may be referred to a distinct locality?

I would not, of course, suggest for a moment that cells are capable of receiving impressions only of a certain kind, though many would probably with correctness urge that cells and processes connected with the auditory or any other centre are incapable of receiving direct impressions from any other peripheral organ (except by association) than the one of which they are the local sign.

For anything we know to the contrary, a group of central structures concerned with, say, the idea of a palace might be the possible physical basis of the idea of a hovel; but having once been made the exponents of a definite local signature, it is difficult to see how they can vibrate in response to a peripheral or central stimulus of another quality.

If we look at any object or listen to any sound, the very fact that we recognise certain parts of the presentation is surely proof that some part of the originally stimulated centre is again responding, and it almost postulates that, as to quality, there is an absolute central local signature ; and though it would be absurd to talk of wealth, or poverty, or persecution cells, for these are abstractions which are embodied only in words (which may themselves have a material basis), it is not absurd to suppose that the experimental bases of the abstractions are definite local signatures capable of acting in consonance with the recognised laws of stimulus and result.

If the above be true, or in a measure true, if it is a workable hypothesis, to what does it lead us ? To this, among other things, that in treating insanity we should first of all address ourselves to ascertain the radical basis of the abstractions—for delusions are chiefly abstract ideas—to find out which group of local signatures was primarily affected, whether the aural, optical, touch, or smell centres were probably the first affected, and to pay no attention to the secondary centres, which are merely displaying their associative connection with the real seat of disease.

It may be that more than one group of centres is primarily disarranged ; if so, the greater in intensity, in diffusion, will be the display of signature.

In examining any patient who exhibits explosiveness or delusions, I always try to focus the primary lesion if possible, to determine which centre was first to show irritative continuance of action ; and in some

instances we shall, by bearing this in mind, meet with success in dispersing the whole range of symptoms.

In general it is only by attacking the periphery that our localising efforts are rewarded, but I look forward to the time when surgery will be our great aid, by applying direct local treatment to a specific centre. Unfortunately, the peripheral mode of attacking central lesions is of little avail, because in the majority of cases the more highly elaborated internal structures are especially involved, and so the usual methods are simply the employment of symptom-remedies such as sedatives to control excitement, rest by endeavouring to divert processes of thought into other channels, or other indirect means, which either have no effect at all, or are positively harmful by doing nothing to get rid of the fundamental mischief. I own, also, that there may be conditions of the blood, due to the presence of toxins, which may, with advancing knowledge, be capable of treatment, and it also seems feasible that bacteriology may help us in the future.

Some time since* I advocated the use of surgical measures in alleviation of pressure symptoms in general paralysis of the insane, and I published cases where there was no doubt about the relief by operation of some of these symptoms. I look forward to the time when operative treatment will be recognised as the only way in which the cortical lesions must at certain stages be dealt with—operations directed to the immediate local treatment of centres inaccessible by the present indirect methods.

* See previous chapter.

It is not always easy to locate the centre first attacked; indeed, there are often many centres involved by the uniformity of action of the cause, especially in lesions due to blood poisons or toxins; at other times there is no uniformity, for a cause involving primarily an auditory centre in one case will attack an optical centre in another; all the same there remains incumbent the duty of finding which centre is the one first or chiefly involved, and of applying our attention to it.

It would seem that the morbid anatomy of special centres is well deserving the attention of pathologists, and as it is probably true that every organ is represented in the brain, so must we look to the discriminate recognition of these representative parts as the seat to which treatment should be specially directed. What is done with success in Jacksonian epilepsy should be possible in ideational insanity; and it may be confidently said that many cases of chronic delusional insanity with all the associated symptoms of violence and irregularity are left uncured because we have not the courage to attack them surgically.

Localisation is the immediate and pressing need in the treatment of brain symptoms, whether in the general domain of neurology or in the particular one of insanity.

If what I have written is in any way correct, we must conclude that the presence of delusions is not due to what Dr. H. Jackson calls the positive, *i. e.* the untouched, but to the negative or diseased, elements and their associations; recognising always that the normal action of the parts untouched by disease may

be temporarily disorganised by interference with their normal associations.

The great difficulty one has is to explain abstract ideas, but it is scarcely necessary to suppose more than that old perception paths are involved, because in all abstraction there is present some embodiment of a former sense impression.

Much of the present-day treatment of the insane is indiscriminate. It is sufficient that a patient is excited to put him in a blue room, or that he is depressed to place him in a red room, when his optic centres may be only secondarily affected; or to send him to hear music or to the theatre when his auditory centres require rest. I have seen out-of-doors treatment aggravate symptoms, and on the other hand, many advise it as the panacea for all sorts of mental impairment.

This I am, I think, warranted in saying, that universal rest treatment, such as is now carried out in some "homes," is often very dangerous to the integrity of the patient—everything calculated to stop general central action being enforced to a painful degree, with the result that either introspective abstraction is the only resource, or that an over-acting centre is left to rush along to an unhindered dissolution.

The surgeon has already usurped much of the territory of the physician. It seems time that he took in hand some of the problems of insanity.

I feel strongly the incompleteness of what I have been urging. It must be that there are diseased elements in the brain that are only remotely con-

nected with sense-centres, and that if any sense-centre is apparently involved, it is in reality only secondarily so.

I can understand that one might say, "Take the case of a person who has ideas of persecution by a secret society ; or of a woman who takes objection to her husband and makes statements of an utterly false character as to bad treatment and neglect ; or of another individual who passes his time in performing arithmetical absurdities, or in evolving extravagant moral theories ; where is the surgeon to begin his work here ? "

I can only confess that in the inability to trace the origin of such ideas from the internal senses there seems no remedy to suggest. That there is a tissue change of a definite nature I am bound to believe, but beyond this we can hardly go. For such there seems to be no direct remedy available.

Let us seize upon whatever appears to be the central local sign of each organ in the body ; we can afterwards consider the material of abstract ideas.

If, as a last resource, operative measures are taken, it may fairly be asked how far they should go, and what direction should they take. I suggest that a primary trephining to inspect the region of disease indicated can, as an operation, do no harm. Nowadays there is little danger, and it can be quickly performed. There may be found some membranous thickening, or adhesion to the underlying convolutions, and this may be removed, as its continual presence may be causing pressure or irritation. Much good is likely to result from the

relief of congestion, and in my experience there need be no fear from after results, such as the growth of membrane over the opening.

If, on removal of the dura mater, the membranes appear misty, they might be punctured and drained. As to interference with the cells themselves, one would be guided by their appearance. Anyhow, we should obtain material for prognosis impossible by other modes of treatment.

May I invite the attention of pathologists and of those with opportunities for the clinical study of symptoms to the importance of noting specially the condition of the sense centres, with the object of establishing the correctness of the opinion that changes will be found in them which may be of use in leading us to what is very desirable if it be possible, viz. a more complete localisation of perception or ideation than we at present possess.

I remember a case where, with persistent olfactory hallucinations, there was found after death a sclerosis of the olfactory centre. Unfortunately, I did not preserve the specimen, but I should know now how to make better use of it, for I believe that operative treatment was really the only one likely to have done any good.

Success in the medical management of insanity appears to be at a standstill; it is time that we consider more deep-searching means.

CHAPTER XI

IMPULSIVE INSANITY

WHETHER it is right or wrong, we must all obey the law ; and inasmuch as legislation is the social barrier against evils, it follows that the law is a shifting quantity according as the barriers against the recognised wrong-doing of the moment requires strengthening, relaxing, or changing. The law views the act and the agent, and it exacts the penalty from the latter unless some very evident condition, such as mental irresponsibility, is shown to intervene. But it is not the function of the law to define what "mental inadequacy" is ; this is left to experts in the analysis of mental states, who should be able to come to a conclusion which either relieves the prisoner of the responsibility of the act or declares him *compos mentis*. It does happen that a social trespass can be shown to be the result of the action of a mind which, though not in harmony with its environment, is in no way diseased, but is in the sane service of a baneful animosity. Impulsive insanity is the last resort of counsel in cases where there is no doubt, from direct evidence, that the prisoner did actually commit the offence, and

where the legal finding of an unsound mental state is the only condition upon which a reduction or remission of the extreme sentence can be obtained. Perhaps it is because this plea is generally used as a *pis aller* that there is so much scepticism as to its validity—so strong an opinion that it is only introduced as a last resource when every other line of defence fails—that it becomes more a prayer *ad misericordiam* than an argument which would not have been tolerated if there had been any other opportunity of slipping from the ultimate consequences of the law. Evidence of mental derangement would probably be used oftener than it is if it were not that a successful pleading would consign the prisoner to a lunatic asylum, whereas imprisonment for a short time, or a money fine, is thought the lesser of the two evils. The result is that, after confinement in the prison, many prisoners are sent to the asylums as insane, and it is certain that they ought never to have been allowed to plead. The *rarity* of the plea renders it suspicious, added to which is the fact that it is usually advanced in arraigned persons of the upper or better classes, just those where, if successful, it is said that there is one law for the rich and another for the poor.

There is, perhaps, no class of persons so much to be pitied as those who act on impulse, especially when what they do has the aspect of premeditation (which, indeed, it may be), and yet under circumstances which entitle the agent to consideration. The usual idea of an “impulse” is that of a short, even momentary, process to which a person “gives

way," but which might have been prevented if control had been exercised and time taken for the operation of will. But I hope to show that though the act itself is, as all *acts* are, sudden and explosive, yet the act is only the terminal of a process which may have been going on for some time, and therefore it is not only the act itself which has to be considered, but the whole process of which it is a part. It may even be that after the act the conditions which led up to it are satisfied, the process has worked itself out and the artificial self reverts to its normal condition. This changed self which eventuated in the criminal explosive act is not necessarily of *rapid* growth; it may have been slowly modifying the original character, so slowly as to be unperceived by the friends, or it may be a rapid development, but in all cases it is not so much the act itself that is to be considered as is the condition which culminates in the act. Psychologically, and physiologically too, the act is a necessity of the condition—one without which the new entity is imperfect—and since what a man *does* is the only way we have of gauging what he *thinks*, the act is the key to the secret chamber of the mind, it is a very *part* of the state of mind; and so we are led to ask, "What must have been the state of mind which led to this act?" and then to a further question, "Was that state of mind an artificial one?" "Was it foreign to the whole tenour of the individual's life as known to others, or was it the natural trend, the tendency of the mental processes?" As to whether the nature of the cause of the change in the self is

moral (such as grief or worry) or physical (such as drink, narcotics, etc.) we have nothing to do—nothing, that is, as touching the degree of responsibility. What we have to consider is the mental state engendered by the particular cause, and to ask that this be appreciated.

A certain state of mind may lead to an act of suicide or of murder according as attention is egoistic or altruistic. Why is the one usually condoned by a verdict of “unsound mind” and the other only by the life of the agent? Both are unnatural, the local signs of a changed self, as we shall presently see. Both are, perhaps, the first and only recognised symptoms of a condition which has been silently establishing itself unknown to the bystander, and perhaps even to the individual. There must be a first sign of an insanity if such a state exists. Why may not the first sign be the explosion? The train has been laid in the innermost recesses of the mind, it has not been spoken of, no one has seen it; suddenly it explodes, and all say, “Who would have thought that he or she would have done it!” How is it that he or she never did such a thing before—a thing so foreign to their usual mode? How is it that if they have the opportunity given them of repeating the act they never do it? The answer is truly a psychological one—because there is no recurrence of the tendency.

In a recent address to the Grand Jury at the Guildford Assizes, Mr. Justice Grantham is reported to have said that “he thought it was very extraordinary that those persons were perfectly sane

before the commission of the crime, and yet they were told that when the crime was perpetrated the prisoner was not responsible for his or her actions. Such evidence often created a good deal of difficulty." By his remarks Mr. Justice Grantham simply begs the question. How can he say, if he has any knowledge of what insanity is, that "those persons were perfectly sane before the commission of the crime"? Who said they were sane, and on what grounds? If any one did say so, was it because he could detect nothing wrong in his ordinary intercourse, commercial or otherwise, with the prisoner? Was it because he could see no incongruities in the prisoner's answers to the commonplace inquiries of usual social intercourse? Was it because he thought the prisoner knew the difference between right and wrong? Was it because he recognised premeditation and sanity in the prisoner's purchase of a weapon? All these are possible to a state of mind which may be shown to be non-responsible.

Those who are conversant with insanity know that very often it is only by the act that it can be diagnosed; they know that the physiological fore-runners of the act are the same in the insane as in the sane, and they recognise that it is the badness of the work which proves the machine to be out of order.

Mr. Justice Grantham seems to ignore the fact that there is a sane condition which explodes in a definite act, and that there is an insane state which explodes in an exactly similar manner, and that the

method and the means of action are due to the use of part of the same mechanism in both classes.

It is in the "partness" of the process that the difference between the two classes is to be found; the one is voluntary, the other is the reduced state of impulse. It is not the act, but what conditions the act, that ought to be judged. If the psychological differences between impulsive and voluntary action are thoroughly appreciated, judges ought not to "encounter the great deal of difficulty" to which Mr. Justice Grantham confesses. A deceased judge once told me that he considered it his duty to hang all murderers. I am quite sure that he was right if he meant to condemn only sane murderers, but I have a strong suspicion that he would have refused to modify his judgment even in a case of insanity unless he had strong evidence that it had existed in a very palpable form before the act was committed.

What, then, do we mean by an impulsive state as distinguished from a voluntary action? Both are in one sense voluntary, but in impulse we have a simple, in the other a complex, process. In impulse "some definite object, whether it is something external or an internal idea, is willed without any reflection or choice at all." It is *choice* that is the essence of a complicated voluntary action. In all cases of the kind we are considering much use is made of the words "motive," "incentive," and "inducement." We must have a clear idea of what is meant by these terms. "Motive" is defined by Titchener as "the conscious condition of a particular action," and it has therefore two sides—one, the

objective, which is the *inducement* to act ; the other, the incentive, the subjective, the condition of feeling ; the combination of these makes the motive or *moving power*. In impulse there is no *desire* and no *wish*, for these are components of *complex* voluntary action, and they do not always pass into external voluntary action, though they *are* present in the idea of the result. An impulse, then, "is a motive to action made up of the perception of an object, the idea of our own movement (towards or from) and an idea of the result of the movement." Wundt says "Impulsive action has a *definite purpose consciously* attempted ; it is therefore a simple voluntary action because the thought of the end to be realised accompanies or precedes it, but there is no *reflection* or *choice* at all."

The great thing is, then, to recognise that there are two kinds of voluntary action. In both motive is present, in both there is an idea of the result, in both there is a strong affective or emotional or feeling element ; but in the one there is no reflection or choice, in the other these are the essential elements ; in the one the affective element is the *mainspring*, in the other it is a constituent element but not necessarily so pronounced, indeed it may require a rigid analysis to detect it. In impulsive acts the *organic* feelings may be very powerful, and in this respect they resemble *instincts*.

In the process of development of mind, action becomes more complicated as the mental state rises ; at first there is simply reflex action, then instinctive and impulsive action which are biological necessities, finally, complex voluntary action and the *choice*

between abstract ideas with their sentimental accompaniments or emotions. It is an evolutionary law that dissolution proceeds in the inverse order of development, so that any cause which tends to interfere with the anabolic state of mind will show itself first in failure of the power of choice, and in the substitution of impulse with its strong emotional tone and tendency to explode into action.

But complex voluntary action depends upon the integrity and development of the frontal convolutions, and it is just in these that we find signs of impairment in mental troubles ; so that it would seem that what sets up temporary or permanent alteration in the nutrition or structure of these highest convolutions is bound to declare itself by mental phenomena of a lower grade ; the highest members are unable to function, and their duties are transferred to less highly organised subordinates. Reinforcement and inhibition, which are essentially the functions of the highest centres, are cut off, and thus active attention, choice, the regulated associations of ideas and their easy and serial flow, are made impossible, and what follows is a concentration of feeling which we have already shown to be the chief factor of impulse. There is every reason to believe that too much exercise of individual elements alters their nutrition and their relations to other elements, and destroys what is called the mental balance, and this is just what we recognise as "stress" and "worry," leading to obsessions, mono-ideism and ecstasy, all of them results of obstructed flow of action due to excessive functioning of certain particular cells whose condition

produces the state of *passive attention* which is mainly one of feeling.

If, then, a strong combination of circumstances produces a state of mono-ideism, increasing the subject-consciousness, narrowing the object-consciousness to the immediate environment of the particular group of ideas which is the material of the passive attention, it of necessity follows that there is just the conscious content present which must form a new and narrowed self, incapable of deliberation, dangerously explosive and liable to be touched off into action on the least provocation. As to what the nature and associations, the content of the idea, will be depends on the cause. It may be pleasant or the opposite, and the constituent feeling or emotion must take its tone from the idea; and remember this, that every emotion has a subjective and an objective side; the objective side of a subjective feeling of wrong or injury is revenge; of kindness, it is gratitude. In thousands of ways we daily see this tendency to mono-ideism in the fads of extremists, in the excited and impulsive screaming of politicians, followed by their profuse apologies when the explosion is over; and it is only because little harm is the result, as a rule, that only temporary notice is taken of these backslidings from the deliberate mental state; but we should be none the less blind to the existence of a condition which is always troublesome and may be dangerous.

In considering the causes or antecedents of the new self we must not leave out of view the question of temperaments, some of which are admittedly more

liable to reduction and explosion than others. What the particular effect of any moral or physical cause may be—how intensely it may affect the normal self—how slow or how rapid may be its action, we can only see by results. The other day a man hung himself because his wife had a female instead of a male child. I have known women make suicidal attempts because of the growth of hair on the chin. In the former case what ought to have been a mere disappointment became a shock, in the latter a persistent worry determined the reduction. When once it is admitted that impulsive action is a simple element of voluntary action, the essential conclusion is that full responsibility is abrogated, though the mechanism for carrying out the impulse, not strictly psychical, remains perfect; in fact, the act becomes essentially ideo-motor, and is not a strictly voluntary one.

It is no proof of responsibility that when a person suffers a moral wrong (which is so intense in its grip as to render other perceptions impossible) he should show revenge, should procure weapons to effect the purpose to which such feelings lead, and should actually pass the idea into action.

Such a condition of self is the physiological and psychical result that is to be expected; the real question is whether the new self is different from the old one, and whether the person is responsible for permitting the new state to be substituted for the old one. We are, I suppose, all familiar with states of mind where we cannot escape from an idea which haunts us, makes us unimpressionable to other

sensations, and keeps us in the state in which we can "think of nothing else." We know how prone we then are to rush into action, and how vainly we try to banish these thoughts which have "got on our nerves." What a relief, too, is experienced when the tension is relieved, either by an act, or by the substitution of another set of ideas which distracts, literally draws off, the over-burdened cell-energy! Do we not realise afterwards how near we have been to the commission of an act for which we should certainly have been held responsible, though we know how helplessly we were whirled round in the vortex of an all-compelling tendency?

There is another class of revolt against the social order which is not impulsive, though the result is the same. There are people who deliberately enter upon a course which leads to the commission of crime, but which is not one of reduction to mono-ideism. They feel no relief after the motor act; they strive to escape from the consequences; there is no change in the self either before or afterwards; their whole life is a deliberate complex voluntary condition in which they are doing their best to outwit their social environment: they are depraved by tendency, not depraved by stress, and impulsive action is as a rule conspicuous in them by its absence. Their whole tendency is *ab initio* revolutionary.

But, it may be argued, is not this very tendency a disease? When people with this tendency are brought daily face to face with the punishment awarded to criminal acts, and yet will persist in those acts, does it not show that the *tendency* in

them, the self, which is the result of an early education and constitution is a morbid one, and that therefore they should be acquitted of responsibility for it? By no means, because evidently they *do* know the consequences of their acts, and they have the inhibitive power to retard, precipitate, or cancel them altogether, if the conditions are not favourable to success. They take their chance, and if they fail they blame themselves only for carelessness in neglecting some point essential to their success in accomplishment or concealment. There is no *dissolution* in the scientific meaning of the term; on the contrary, there may be a high degree of development, and I am not arguing for any but persons where the criminal acts are the result of conditions which bring about a change in the usual tendency, the normal self. When the reformed criminal is met with what a failure he usually is! His new self does not sit well upon him and he feels himself an alien, liable to relapse into his normal state.

Punishment does not prevent the *wish* to commit crime, but it does to some extent prevent the actual committal of it. That it fails to prevent it altogether is due to two things: first, that some are able so to plan their methods that they escape detection or proof; secondly, that stress, shock, or other cause, reduces the inhibitive complex voluntary power to the lower impulsive state, which is a mixture of emotion, sight of the end, and movement to compass it.

If the strictly criminal type of mind is held to be a disease, it is for society to say whether it will

allow such "bundles of tendencies" in its midst, or whether it will isolate them and protect itself. It prefers as a rule to do the first, and to protect itself by penalties of different grades following the detection of wrongs attempted upon itself. And perhaps this is the most convenient method. It is certainly easier to let crime declare itself than to hunt for the possibilities of it. The man of innate criminal type knows this ruling of his social law, and he accepts the challenge with the full possession of his reasoning faculties. This criminal type, this tendency to act upon wish and desire at all risks, is not a matter of education solely, nor is it one confined to a particular platform of the social grade, nor do I think that it is in these subjects that the impulsive state of which I am writing is particularly apt to occur.

It, of course, may do so, but the individual who has successfully wronged the social law is little likely to be disturbed in his naked abstractions by the flouts and gibes of others. It is the gentle spirit, which deals with charitable concretes and never thinks of the wrong of a trespass, which is peculiarly apt to feel the pain of the stab of neglect, and to be thus led into a brooding which makes a law for itself, in its own interest, but adverse to the social majority.

Are the insane especially prone to act upon impulse? This question must be answered in this connection. Many are and some are not. It is not possible to watch the acts of a person in a state of acute insanity of the demonstrative type without

concluding that action upon presentation, *i.e.* impulsive action, is almost the only form of action present. There is no "choice" possible; an indiscriminate behaviour towards friends or strangers is the mark; and even when the acute attack assumes the most ecstatic or stuporous form, and there is every reason to suppose that the patient is in almost a complete state of mono-ideism, impulsive acts of the most dangerous and destructive character are to be dreaded.

In forms of insanity, where there are delusions of persecution, and a new self of imagined wrong is constituted, the presence of anyone who is supposed to be connected with the reduced and contracted sphere of ideas is quite enough to lead to impulsive action, and in all these instances the agent would rightly be held irresponsible. But there are instances of acts committed by persons who are insane which seem to imply not only premeditation but choice, both of subject and opportunity. Murderous attacks are occasionally made upon the higher officers of asylums, and it has been seriously held in some of these cases that the patient should be tried and punished. But to do this would be against all clinical experience; for the more one sees of lunatics the less one is inclined to trust them, recognising how intensely and suddenly the emotional equilibrium may be disturbed in insanity, and this by causes and to a degree which cannot be estimated by personalities of a different order from the artificial one of the madman. In no court of justice would punishment for an offence be

tolerated on individuals in whom the existence of delusions was an admitted fact, even though the delusions had no apparent connection with the crime. In a mild sort of way punishments are even now inflicted on patients under restraint in asylums, showing that to some extent insane patients of a certain class are held to be capable of inhibition. These "punishments," it need scarcely be said, are merely nominal, and only extend to the withholding of tobacco or of not allowing attendance at the dances or other recreations, and even then they are not always successful in operation. The fact remains that it is no more possible for a sane person to realise the promptings of the insane mind than it is to feel a toothache after the offending member has been removed, or to remember the force of a blinding sorrow in the presence of an overflowing joy.

There are, then, degrees of responsibility for murder or acts of violence. There are criminals of the first degree—those who are distinguished by deliberate methods for the accomplishment of their ends, not impelled or rendered impulsive by anything more emotional than the acquisition of money, often people who cloak their processes for accomplishment under the guise of perfect compliance with the social standard, who can balance their motives and employ their untrammelled association-processes in taking measures for their safety and freedom from detection, who never become so reduced to one group of ideas that others are ignored in the strain of its encircling grip. These are the professional criminals, the healthy weeds whose growth is the

more luxurious by the death of the virtues which they strangle. They are weeds from the first, and must be eradicated root and branch, together with any little sporting grafts of better tendencies which in a withered form represent the futilities of a well-meaning social environment in its efforts to improve them.

Next in degree, but really a long way removed, are those to whom it is the object of this paper to call attention—those who by stress or worry are compelled into a narrow but intensely emotional phase which can scarcely issue in any other way than an explosion, at times harmless and therefore disregarded, at others foudroyant and of a nature to bring the agent under the scope of the law. If murder results, it is of the second degree, and it should perhaps be contradistinguished by a different term, such as “homicide.”

Since the time of Mr. Justice Stephen there has been a great improvement in the judicial estimate of insanity, but there is still an apparent unwillingness to accept conditions of sudden impulse as exculpatory when the act bears the impress of premeditation and there are no after-signs of mental alienation. This can scarcely be wondered at. It is open to any one to say that even if it is allowed that anger is merely a short fury, it is still absurd to hold that all the results of anger ought to be condoned on that score. But there are degrees of “anger” which pass beyond possible control where the psychological conditions are of a distinct kind and have a morbid anatomy of their own. These conditions can

only be established by a deep searching into all the factors of the particular instance under consideration, and therefore we come to the conclusion that each case must be determined on its merits.

Insane people frequently commit destructive acts which cannot be directly traced to the external signs of their insanity, and yet the fact of their insanity is held to absolve them from extreme legal consequences, even though choice, motive, and premeditation may be shown to exist. Should not the committal of a violent act raise the suspicion that something may have occurred to paralyse the sound action of the brain? We have tried to show that this may or may not be the case, and that though one murderer may be of sound brain, another is in a temporarily explosive condition which cures itself by the violence of its eruption.

The case of people who make suicidal attempts runs naturally on parallel lines with what has been said about homicidal acts. It is the rarest thing to find any hesitation on the part of a jury to declare that a successful attempt at suicide is the result of an unsound mind, and though I should be inclined to agree with this in the majority of cases, I do yet think that there are "deliberate" (as distinguished from "impulsive") suicides; although as a rule a suicidal act is the result of a reduction to a condition of mono-ideism of such intensity as to lead to the explosive act of self-destruction. Persons who have made such attempts and have recovered tell us that not only did they feel nothing painful in the act itself at the time, but that they remember

nothing of the attendant circumstances ; they were merely reflex organisms acting out an over-charged content, just as when a wire is too small for the free passage of an electric current it becomes glowing and may even fuse. I think that many of the explosive acts of a homicidal character already referred to are also attended with an imperfectly conscious condition.

It is not only in the *extreme* acts that we have been considering that the effects of impulse may be seen. In a smaller way, faddists on the labour, the temperance, or the anti-vivisection questions are notably ruthless and destructive in their methods ; but because they fall short of the climax of visible destruction of life, though they may entail grievous suffering in the irrepressible explosions of their mono-ideism, they attract but a passing notice. And in the same way persons may be "over good," possessed with a charity or self-righteousness which makes them blind to their family interests and is but the selfish gratification of a predominant idea.

If the arguments adduced have any weight, they ought to lead to an alteration of the law, or at any rate to a greater consideration on the part of the judges for medical opinion based on acknowledged psychological bases ; but the study of psychology is not a necessary part of the legal education, and is only to a limited extent obligatory in medicine, so that the psychical conditions of a given conscious content must often come as a surprise to those who have not studied them ; and it is not difficult to see how an opinion which on the face of it appears to

be given in favour of the accused because it has been retained for that reason should be viewed with suspicion because it rests upon subtleties of psychical analysis which are, to repeat the judge's words, the foundations for evidence which "creates a good deal of difficulty."

The doctrine of free-will, freedom of choice between what Hughlings Jackson calls re-representations, is a great stumbling-block in the way of acceptance of dogmas concerning irresponsibility. It is a popular view of Mind to speak of it as if it were a living, acting creature; but modern psychology does not take this view of Mind—it holds that Mind is a stream of processes in many of which there are no conscious processes at all. It is (to quote Wundt) personal character which is the ultimate cause of volition, and modern psychology cannot hold the popular notion of freedom of the will because the causes that determine this personal character are unknown. Instead of will being free, it is in fact a determined process. If, then, even in its most perfect form among us a complex voluntary process consists to a great extent of elements over which we have no control, and therefore in the view of many should entail only a limited responsibility, how can we associate a judicial responsibility with acts which can be shown to be merely processes whose content is still less conscious and more clearly mechanical?

CHAPTER XII

ON THE TREATMENT OF INSANITY

THE medical treatment of insanity is disappointing, if the statistics issued by the Lunacy Commissioners are to be taken as conclusive. But it must be remembered that a great deal of real insanity never comes under the notice of the Commissioners. There is such a desire to avoid certification and incarceration in registered houses that many subterfuges are resorted to in order that the fact of insanity occurring in the family may be stifled and ignored. Under the title of "nerves," cases of actual early insanity are placed in Homes or in the care of general medical practitioners, and if a specialist has to be consulted, one who is known to the public as a "nerve specialist" is preferred. There is no doubt that many of these early cases of insanity recover, or are cured, and since no record even of their existence is officially kept, there is no possibility of arriving at the truth of either the kind of treatment or of the value of it. All we know is, that the results of the curative treatment of official lunacy are no better than they were years ago, and this in spite of the undoubted improvement which has been made in the

physical, moral, and legal conditions under which the insane are now detained, and the advancement of our knowledge of the nature of the morbid conditions. In no disease is the individual care and attention of acute cases more necessary than in insanity; for the indirect and direct causes are so numerous, the tissue itself is so complicated, even as yet to only a slight degree unravelled, the very nature of mind so difficult to grasp, that continuous and trained care is required to appreciate and to determine the question of combating symptoms as they arise. It is only in few cases that individual attention can be given; but when this can be done and when all sorts of remedial agents—medical, hydropathic, electric, etc.—together with the most recent laboratory experiences, can be brought to bear, we are inclined to think that the results are better than is generally thought, though this optimistic idea rests only upon personal opinion and cannot be justified by statistics.

The sufficient treatment of insanity is a very expensive affair, whether at home or away, and it must be said that in only a few institutions do the conditions for complete treatment exist. In the very large asylums the personal attention of the senior physician and director may be said to be merely nominal as far as medical treatment goes, and the patient is left largely to the care and supervision of assistants who may or may not be adequate. The smaller county asylums are, as the reports of the Commissioners show, very imperfectly equipped with scientific means for research and treatment, and it is

practically in only the very small houses of isolation that the requisite individualisation can be given ; and of course, in proportion as the numbers are small, the expense of care and treatment will be higher. The well-to-do private patient is the one who has the best chance of being successfully treated ; he can have the advice of the general physician as well as that of the specialist, of the electrician, and of the chemist to examine the secretions, of the bacteriologist, and of the surgeon ; for it is very certain that knowledge in these departments is essential to the true diagnosis of most forms of insanity, and therefore to the treatment. As a rule, partly owing to the expense, partly to the prejudices of the friends, it is not possible to obtain all the conditions necessary for recovery.

Some time since a proposal was formulated for the construction of a public hospital for the insane in London (and the principle was capable of extension to other large towns) in which all the advantages of specialised treatment were a prominent feature, under the care of men especially qualified in their particular spheres. The proposal was costly but ideal in its perfection, and it seems a pity that the scheme was not encouraged and that it fell through. The nearest approach to the ideal in the public asylums of this country is probably to be found in the new medical arrangements at the Wakefield Asylum. I do not know of any complete arrangements for medical treatment in any of the private institutions for treating insanity, but if any particular method is to be adopted it can of course be

procured and no doubt in the case of the wealthy it would be. It is a fact that many of the staff at present engaged in this country in the management of cases of insanity have not been educated in the principles of psychology; indeed, except in the curriculum of one university, the subject is neglected. True there are examinations in insanity, but it is not thought necessary to insist upon a study of the action of normal mental processes. If men are supposed to be unable to interpret correctly the pathology of disease without a knowledge of physiology, why should they be supposed capable of understanding insanity without a training in psychology? It is gratifying to know that steps are being taken to spread the knowledge of psychophysics, and that special examinations are held to encourage qualification in the subject of psychology; but as long as acquaintance with the principles of mental action is voluntary, and is not a necessity even for those entrusted with the highest posts in the treatment and supervision of the insane, is it to be wondered at that the curative treatment makes no forward strides?

On reading reports of cases one is struck with the loose way in which the failure in mental processes is described. Memory is generally said to be "bad" or "fair," but no attempt is made to indicate the actual condition by the methods which Ebbinghaus has enunciated and which are actually reducible to mathematical terms. Reaction-time is rarely taken, though the importance of it has been pointed out. The nature, range, and clearness of Perception is

neglected. Powers of attention and inhibition are scarcely ever mentioned. Emotional accompaniments of nervous states are merely noted, and rarely indeed are endeavours made to co-ordinate them with the nature and intensity of the ideational conditions. The time and labour involved in these minute investigations are great, in some instances impossible, and, as will be readily seen, when many persons are under treatment, cannot be undertaken, but of their importance to the care and treatment there can be no contradiction.

The necessity of accuracy in the delineation of symptoms may be instanced in the legal inquiries as to the soundness of mental processes in people seeking compensation from accidents, or in persons under examination as to testamentary or civil capacity. Two of the most important faculties to determine are those of memory and attention, and nothing could be so convincing to a jury as a precise statement of the exact degree in which imperfection existed; but whilst one witness may pronounce them "fair," and another will say that they are "normal" or "bad," there is no basis for a proper judgment. This ought not to be in times when by the aid of the multiplication table and a book of logarithms it is possible to calculate the intensity, either of sensation or of stimulus, and to represent the variations of memory in the form of an equation.

In other countries the study of insanity is much more completely carried out than it is in this, and the medical work is far more subdivided. Do we see in them any greater success in treatment than

pertains with us? The question is very difficult to answer because (at any rate in this country) so much depends upon the personal equation of the physician as to what constitutes a recovery. In America it would appear that the percentage of recoveries is even less than with us, but the compilers of the reports are careful to explain that great care and prolonged examination are used before discharging a patient as "recovered." It also seems that the number of relapsed cases admitted is less than with us. There is little doubt that the official statistics given of recoveries in institutions in this country are quite misleading, and one is forced to conclude that many patients figure in the discharge list as cured who are only improved, better for the time being, but not by any means permanently set up. Various causes contribute to this. There is an unwritten and unexpressed, but still understood, competition between institutions, especially when there are several in the same county, an honourable rivalry as to which should have the largest percentage of recoveries, a result perhaps unavoidable owing to the publication of statistics and the tendency to over-value results which figure out most strikingly, whilst all the time it is forgotten that there is no more than a superficial similarity between any two groups of comparable communities. The great stress upon accommodation, and in many instances the unfortunate eagerness of the friends to remove patients before they are thoroughly cured, tend to swell the recovery lists in a manner which is not justified by subsequent events, and which is also

unfortunate in tending to increase the liability to foster the transmission of hereditary taint.

If we limit our remarks to the mechanical care of the insane, it is difficult to imagine better conditions than those already existing. Though perhaps the ideal system of housing and caring for the insane is still a matter of difference of opinion, it must be acknowledged that much energy, thought, and enterprise are expended in procuring the best and most up-to-date arrangements.

The tendency of the moment is to avoid as much as possible the word "insanity," and to treat patients in their own homes or in the houses of medical men without certification. There are many early cases in which home treatment is the best, and where it is quite unnecessary, and therefore wrong, to place the patient under certificates. Efforts are being made to enable patients to be received under care in such a manner as to avoid the "taint" of having been in an asylum or under certificates. The time has arrived for an emendation of the existing law on the subject, and the next generation will see a much improved code; for certainly at the present time hardships and stringencies in the way of early and humane treatment exist, though we are tending to an evolution of the non-restraint system undreamt by the great men who so happily inaugurated the system years ago.

Whilst allowing that very often the care of the patient means the cure, that all that is wanted for the cure is that the patient should be placed in such conditions as are best conducive to rest, freedom from the presence of irritating causes and safety for

self and others, it is not to be lost sight of that many patients go on to a chronic state, and that strictly medical treatment is either unable to arrest this downward course or is not even attempted. To be just, it must be conceded that electricity, galvanism, hypnotism, hydro-therapeutics, have been tried by their several advocates and success claimed for them ; but in other hands they have failed, and it is not considered that they are indispensable remedies to be included in the armament of therapeutics, but that the employment of them is to a large extent empirical.

The treatment of insanity is generally considered under the heads of physical, moral, and medical.

The physical is that branch which practically begins with the lodgment of the patient in an institution ; and in this deprivation of indiscriminate liberty and of many civil rights it may be said that the whole issue of the term is comprehended. In many respects, indeed, the patient is better off than when treated at home or in a Home, for he cannot be strapped down or fastened, locked in his room, or otherwise secluded without the compliance with legal and statutory declarations which insure publicity ; whereas one often sees patients who are privately treated at home fastened down to the bed or chair, secluded, kept from going out, exiled to remote and inconvenient parts of the house, and generally much more isolated and restrained than would be possible in a public institution. This will probably continue as long as it is possible to have patients under treatment in their own homes, where no official knowledge

is required of even the fact that an insane person is there.

The evolution of the system of treating the insane seems to tend towards doing away as much as possible with any form or appearance of restraint, of making the conditions of institutional detention resemble as nearly as possible nothing more oppressive than the restrictions of the external social system, and of regarding the whole range of curative policy from that of the hospital system, which is the only truly curative method of viewing it. The growth of approved villa residences, the provision of hospital wards for acute cases, the abolition of high walls, the doing away with locks, the increase of liberty on parole, all point to the direction in which the principles of treatment move.

A great advance is being made towards the rational treatment of mental disease in the fact of the recognition by the authorities of the general hospitals of the necessity for the provision for the clinical study of early insanity by students in the out-patient rooms of the hospitals, and it is not unlikely that much elucidation of the conditions of insanity will result from this experiment, because the conditions are there which we have just explained are wanting in institutional life, viz. sustained interest and the opportunity for independent investigations by unbiassed minds untrammelled by the obligations and distractions of purely official supervisors.

It would be unwise to predict how far the views and energies of the many philanthropic men interested in the question of the detention and housing of the

insane will lead them, but it may be safely left to the improved spirit of the age, which recognises the true medical aspect of the subject, and is content to incorporate the views of the profession generally in its deliberations.

Past experience has shown how necessary it was for the law to interfere in the treatment of the insane when the medical nature of the disease was not understood; and inasmuch as some forms of insanity do require temporary interference with the liberty of the individual, the treatment must always remain of a medico-legal nature; but it is to be hoped that the changes which are in contemplation will give as much liberty as possible for the treatment of patients without the necessity of the invariable procuring of certificates, whilst at the same time, by some method of registration, providing security against the return of those conditions which, in persons of private means, treated away from the public eye, might recur if left to irresponsible and uneducated guardians.

It is difficult to see how the strictly curative treatment of the insane treated in large numbers is likely to improve, for it is scarcely possible to conceive any improvement in the physical conditions under which they are now placed, unless indeed much greater expense is incurred than is already demanded. As it is, the charge to the rates is about eleven to twelve shillings per head per week, and no one who knows anything of the subject practically will be found to say that the present conditions are quite adequate. When it is remembered that ample

provision ought to be made for the separate accommodation of patients suffering from tuberculosis, for the so-called asylum dysentery, for the acute cases of brain disease, for infectious diseases and for general sickness, beside the special accommodation for the very large nursing staff, which is even to-day not what it should be in numerical strength, and when the multifarious lay duties of the professional staff are considered, the wonder is that such good results are attained at such a small expenditure. Beyond the fact that employment in some occupation, plenty of out-door exercise, efficient sanitation, and a sufficient, if not much varied, dietary are secured, there is no possibility of individual treatment beyond a very limited extent, and since the inducements for highly qualified men to remain in the speciality are not very great, it is not easy to see how much progress is to ensue unless the present conditions are radically changed and individualisation made more possible. One satisfactory feature is the decline of the general death-rate in institutions, due to the better recognition of medical principles in the treatment of the insane; but it must be regretfully acknowledged that, improved as are the physical conditions under which the mass of the insane are detained, there is yet much to be done before anything like perfection is attained; and for this to be accomplished much more money will have to be spent than now, enormous though the existing charge is, and conscientious as are the guardians of the expenditure.

Though opinions vary as to the fact of there being

an actual increase in the percentage of insanity to the actual population, there is a majority in favour of the view that an actual *pro ratâ* increase is going on, and indeed it is difficult to see how under present conditions this increase is not to be expected. One has only to look at the increased strain of social surroundings, the development of luxury, the enforced laziness (with all its attendant tedium) of middle-aged folk, due partly to the access of wealth, partly to the fact that the working life is shortened by the demand for younger people, who compete with and elbow out their seniors. Nor can it be disregarded that the knowledge of the existence of actual insanity or of a neurotic taint is no bar, legal, moral, or social, to the contraction of marriages, especially where wealth and position are concerned—that often indeed the fact of insanity is carefully concealed from one or other of the contracting parties, that all the conditions under which hereditary taint may occur are directly fostered by the early discharge from legal care of people who can scarcely be said to be cured, but are allowed to return to circumstances in which they can still beget children. The existence of all these causes, and the utter helplessness of medical men to regulate the causes which we all know to be at the root of the disease, must fill us with apprehension as to the future development of the morbid state, and of the incubus which it threatens to become.

The study of hereditary taint, though yet in an imperfect state, is still sufficiently advanced to be recognised as an absolute factor in the physical

cause of mental disease, not only directly but indirectly. It is not alone sufficient to be able to postulate that actual insanity in the parent may or does predispose to insanity in the descendants: we must recognise that syphilis, gout, drunkenness, etc., in the parent are just as potent causes of brain degeneration as are actual neuroses; and inasmuch as there is no apparent tendency to a diminution in these causes—rather is the reverse the truth—there can be no optimism in speculations as to the future. Estimation as to the validity of hereditary taint cannot be seriously entertained in what can be gathered from public records. The sources of information from which the statistics of hereditary taint in public lunacy are drawn are too imperfect, too incorrect, and too superficially investigated to be of more than the most elementary value, and no confidence can be placed in the percentages under this particular heading which are given in the blue-books, because they are compiled from sources which are both crude and tainted. In the lower orders of society it is difficult to get a family history of even two generations, and just as specialisation is the condition of successful treatment, so is it of the determination of hereditary taint, because only when time and intelligence can be combined is it possible to eliminate errors and to obtain complete records, and therefore in the family histories which are known to the general practitioner, and in the more elaborate inquiries which can be worked out at the instigation of the specialist, we must look for averages and statistics formed on the true basis;

but these are just the instances which are unrecorded and are in no way available for general reference.

To show how carelessly or ignorantly statistics on this subject are compiled—and the same may be said in the estimation of causes other than hereditary—it is a very common thing for people when giving information to leave out of consideration altogether the time when the ancestral taint showed itself; they ignore the fact that whilst the earlier members of a family may be quite free from any direct influence, yet the later ones will be viewed by suspicion because it was only in the time intervening between the birth of the first and of the other children that the causes of degeneration in the offspring arose. Just as there is no doubt that hereditary taint is transmitted, as are hereditary good qualities, so is it true that by boldly looking the subject in the face the knowledge may be used to the advantage of the individual and of posterity. There are many known instances of individuals who, duly estimating the handicap of their lives, conscientiously abstain from marrying, and there are others who, when it is brought home to them that persistence in a certain line of conduct is more likely to be detrimental than it would be if the taint did not exist, are both able and have the sense to desist from it, to their mental salvation.

So long as it is thought an impertinence to have a family pedigree of health investigated before marriage, and so long as we are unable to state accurately any but somewhat elementary laws on the subject, and can only insist on the fact

that there is a firmly grounded belief that the transmission of mental taint is a certainty in one form or another, so long will it be impossible to anticipate any other result than a more than *pro rata* increase of lunacy.

Many insane states arise where hereditary influence can neither be shown nor supposed. But nowadays it is recognised that there are many more factors of insanity than were formerly thought of; it is indeed difficult to mention any condition of general disease that may not be immediately or ultimately responsible for a nervous sequel, and hence the question of heredity is a far wider one than the mere narration of nervous symptoms in the parentage would imply; but the special importance of tracing specific hereditary influence is that it is undoubtedly of greater influence than any other of the transmitted causes, and is wider reaching in its results. Everybody is ready to acknowledge that traits of bodily peculiarities are handed down through generations, and the same is seen in modes of functioning or in peculiarities of manner and in ways of mental trend; and for anything that is known to the contrary it is exceedingly likely that some mental types are more likely to be transmitted than others; moreover there must be many nervous and mental states which are not likely to be transmitted at all. Hence there is no law of necessity for the very accomplished or successful parent to transmit his acquired qualities to his offspring, whilst we often see brilliant and successful children whose immediate ancestors are

mean and of no reputation, possibly through the lack of opportunity to develop the latent germs of greatness; the material is good, but there is no mediate forcing-house or hot-bed of education to call it into a growth which appeals to the external surroundings.

As long as social entanglements are carried on in the promiscuous manner which is daily before our eyes, the leader of his sect or the saviour of his country may be looked for in quite neglected and unexpected sources, and the child of the millionaire or of the highest titled subject in the land may have to be nursed in imbecility and moral turpitude.

In truth, then, very little is known beyond a few superficialities about the nature of hereditary transmission either in health or in disease, and even when the experience of professional and expert breeders of animals is relied upon for obtaining certain qualities there is no security that success will be arrived at. So difficult it is to forecast the nature of the progeny in cases where the strictest investigations have been made into the life-history and the antecedents in the types of the animal kingdom that the failure to establish any laws in such a complex creation as man is only what must be expected, even when discussing merely bodily stigmata; and when it comes to the inclusion of mental processes the absolute uselessness of any attempt to deduct results is only too apparent; for not only are we ignorant of the real nature of conscious processes, but we possess no key to their validity, their potentiality, in any one beyond the

few facts of external action from which we generalise.

The medical treatment of insanity appears to be less every day—as far, that is, as drugs are used for any specific purpose other than those intended to improve or modify the general bodily condition. The greatest advantages to be derived from remedies are in the earliest stages, and even here the use of them as stimulants or sedatives is by no means universally accepted.

The light thrown on the nature and causes of insanity by investigations during the last few years has made it clear that the important thing to bear in mind is, that the mere treatment of symptoms is often useless and perhaps dangerous to the stability of the nervous system, and that unless the cause can be ascertained it is better to take the best means for insuring the general health of the patient and to safeguard him than to attempt to control mere excitement by sedatives or depression by stimulants. There are special causes of insanity which must of course be met by special remedies, such as those for syphilis, myxœdema, malaria, and perhaps phthisis, but these do not occur so frequently as other causes, and it is not to them that it is necessary to do more than make allusion. When all the means have been taken for improving the general health, for preventing whatever toxic causes have been at work (such as alcohol, opium, cocaine, etc.), the question remains whether and what measures should be taken to secure the immediate symptoms. And it is here that the necessity is apparent for that in-

dividual control and treatment upon which stress has been laid. All the resources of hydro-therapy, of electricity, of hypnotic suggestion, of moral influence, of gymnastics, deserve recognition and at times employment, and an early appreciation is necessary of the changes in the composition of the secretions and excretions with the view to their immediate rectification. How complicated and elaborate, then, must be the successful treatment of insanity, and how small is the cause for wonder at the present ratio of cures to existing cases !

Theories regarding the influence of microbes in the causation of insanity are still in a crude stage, but it is most likely that in the pathology of the future they will assume great importance. I cannot help thinking that the application of surgery is bound to assume a much greater *rôle* than it has hitherto played. Up to now surgical interference has been accepted with diffidence, but the validity of the principles on which surgical interference can legitimately be used has been brought before and accepted by at least one learned society in this country and by others abroad, and successful results have been published by surgeons of acknowledged reputation, both here and elsewhere.

For particulars relating to treatment in this direction I must refer to other papers published in this collection.

Opinions as to the value of different sedatives and hypnotics are very different, but most are agreed that in the very early stages of mental aberration they may be successfully employed where insomnia

is so distressing and persistent. In the later stages they appear to be of small advantage, even if they are not positively harmful. There is no doubt that the private and unauthorised use of sedatives is very common among people who, finding themselves worried and sleepless, have recourse to the various remedies which they can obtain from chemists, and it is quite fair to argue that a lesson may be learnt from these self-doctors, because we do find that they tide over their trouble in many instances, and succeed in re-establishing their disordered functions without forming a habit which itself afterwards becomes a disease requiring treatment. It is not possible to say how many people have been saved from actual attacks of insanity by this early treatment of the prominent symptom, but it is probably considerable. The records of private practitioners would, if they could be tabulated, give abundant evidence of the efficacy of remedies of this class in the early stages of mental trouble. On the other hand, one is bound to see that very often the continued administration of sedatives has had either no effect in staying the progress of the attack, or has made matters worse, and unfortunately, no rules for guidance of a trustworthy nature can be laid down. The most one can do is to try them cautiously with the hope that they will do good, and to desist as soon as there is any probability that they are of no advantage. It is worth while to reflect for a moment upon what may be noted in any large asylum containing mixed classes (as to degree of acuteness) of cases. The quantity of sedative given in some of these institu-

tions which contain perhaps two thousand or more patients is remarkably small, and where it is given the recipients are almost entirely of the chronic or violent and noisy classes. Where the accommodation of the asylum for individual treatment is ample, and where patients are not huddled together in large dormitories, or so placed that the noise they make does not disturb others in the vicinity, the amount of sedative given is practically *nil*; but when for administrative reasons excited patients cannot be adequately accommodated, the number of sedative draughts goes up. Very often, too, suicidal patients are treated by sedatives more for the sake of temporary alleviation than with any hope that permanent good will result, and it is to be feared that in many of these cases a habit is established. So, too, there are patients in whom outbreaks of great violence occur where the hydrobromate of hyoscin is injected more for the purpose of temporarily incapacitating the patient and rendering him unable to struggle or fight than for any distinctly remedial effect that can be superinduced.

I do not mean to say that it is unjustifiable to employ sedatives under the above-named conditions, but that they appear to be of little use from a curative point of view, unless indeed exception is taken to this argument on the ground that the numbers of patients to be treated are so large that the requisite individual supervision cannot be given, and that experience as to the value of sedatives in large institutions is worthless. Where the treatment is more specialised and individual it does appear that

sedatives are more frequently used, but the terms on which patients are received in many of these houses and the small numbers upon which statistics are calculated, make it impossible to compare the recovery lists of the two classes.

In considering the effect of sedatives upon mental processes it is to be remembered that the order of influence appears to be in accordance with the evolutionary development (the latest evolved being the first to go), and also that the quantity of drug administered and the rapidity with which it is introduced into the system are important factors. It is not by any means uncommon for attacks of insanity to occur after the prolonged administration of anæsthetics, and in these days of complicated and protracted surgical operations, where the condition of anæsthesia has to be kept up for a long time, the after effects of the drug may seriously affect the stability of the central nervous system, for the shock to which it is exposed by the rapid exhibition of the toxic substance or vapour is more serious than is generally supposed. Assuming the correctness of the modern theory that in proportion as the insanity is more profound so do the upper centres become more involved, and noting how consciousness, memory, attention, and inhibition are to a more or less general degree affected, it is really a question worth consideration whether there is any object or advantage in giving sedatives at all. Whatever part of the upper centres may be functioning, it is certain that a large part is put out of functioning capacity, and is therefore resting; and inasmuch as

the individual's demonstrations of speech and action are now essentially reflex in character, causing him little or no exertion, there seems to be no reason why it should be thought necessary to attempt to control processes which are practically arrested already, or are so impaired as to leave it quite uncertain that the chance action of a sedative may be beneficial.

Dr. Hewitt has kindly given me the result of his great experience on this point. He is inclined to the opinion that the administration of anæsthetics is not followed by insanity as frequently as has been supposed. He finds that in proportion as people are habituated to alcohol and drugs so do the difficulties of producing anæsthesia increase. This is in agreement with what is now recognised, viz. that the insane require larger doses of hypnotics than the sane. Drs. Hyslop and Stoddart, who have devoted much time at Bethlem to the consideration of this question, are of opinion that many hypnotics cause degeneration of the neurons, and they ascribe the necessity of large dosage in the insane to the fact that the action of hypnotics is antagonised by the irritating intra- and extra-neuronic toxins associated with acute insanities. They add also that in a healthy animal many of these drugs, and especially trional, will induce all the histological changes characteristic of degeneration of the neuron in thirty-six hours.

With regard to the question as to whether an anæsthetic is capable of acting upon diseased tissue, Dr. Hewitt is of opinion that diseased nervous tissue is either easily affected by anæsthetics or is wholly

beyond the action of such drugs; but he adds that the conditions of the action of anæsthetics are still obscure, and that many of the facts which guide him in the practical administration of anæsthetics cannot, up to now, be explained on scientific bases. Drs. Hyslop and Stoddart incline to the view that the metabolic changes in acute insanity involve the whole of the cortex, and they add that there is no evidence to show whether the degeneration thus induced is furthered by the action of narcotics. Evidently, however, they think that it probably is, because they immediately quote in connection the experiments upon healthy animals.

The whole question is full of uncertainty and difficulty. If anæsthetics are antagonised by toxins in acute insanity, and if the whole of the cortex is involved, it ought to be very difficult to produce anæsthesia in acute insanity. If anæsthetics and hypnotics do not operate upon diseased tissue, but are still damaging to the sound elements, there seems every reason against administering them to the insane. If it is difficult to affect the nervous system by anæsthetics when the alcoholic and the drug habit have been established, it is surely dangerous to do so (having regard to the respiration and the circulation) considering the amount which has to be given under the special circumstances. Sound brain tissue is unable to function in the presence of blood charged with anæsthetic; of this we are certain. Degenerated brain tissue, which, however, is not absolutely disorganised, must still have, in all probability, some nutrition-relations with the blood, but

how these are affected by the presence of anæsthetics and hypnotics is at present an unsettled problem.

We know that there are toxic agents which seem to control different parts of the nervous system, but our knowledge of the action is still empirical, and if we are asked for drugs to control demonstrations of different types we have to try first one and then another without any definite forecast as to the result. The small amount of sleep often noticed in persons suffering from acute insanity is very striking, but it certainly does not affect the individual as much as might have been expected, and it is probable that the reason for this is to be found in the view that the highest parts of the central nervous system are out of action, and do not therefore suffer so much from want of rest until the conditions which allow the regular rhythmic states of work and rest are restored. It is no unusual thing to meet with patients in extremely pronounced states of insanity who are scarcely ever seen to sleep, and I have known at least one patient who was never found asleep by the attendants during both night and day; and although there were times when his central activity was much less than at others, he was never known to be absolutely quiet and at rest. This accords with what is noticed in the organic system with its organised movements, and as the highest centres become more and more put out of action, so does what is left resemble the lower structures in its requirements for rest and repair. However valueless, if not actually detrimental, we may consider the administration of sedatives to be in the treatment of very acute mental

complications, it is yet probable that the same remarks do not apply to the earlier stages of oncoming insanity, because here the upper centres are not so entirely affected as to be beyond the possibility of recuperation by sedatives or narcotics. In cases of brain weariness, or stress, of those earlier conditions of excitement which, if not checked, pass into downright insanity, a course of sedative treatment is often salutary when combined with other remedies of a general or specific nature; and the consensus of experience is nowadays in favour of the moderate treatment of early cases by sedatives, whilst reserving them in the later cases for special circumstances, such as the administration of hyoscin when the patient is very violent, or of morphia or other sedative when the accommodation for separate treatment is imperfect or inadequate.

Specialised forms of Light treatment, which have been found of value in other diseases, have not hitherto met with much success in insanity, and it may be said that the present treatment of insanity rests on the principle of supporting the general nutrition, of directing special attention to such of the known causes as can be specifically treated, and of placing the patient in conditions where he can do no harm to himself or others. The future may find us in possession of directly curative remedies, such as antitoxins, for conditions which are at present of a speculative nature, but to expect that much more can be done beyond early treatment on general medical principles for many cases of central breakdown is to fail to recognise what an insane state means.

